APPENDIX I.

Serial No.: 09/626,621

Docket No.: 55679US002

Claims 1-25 and 34-47 are provided below.

1. A method of providing a composite image on a substrate, the method comprising:

providing a first film on the substrate, the first film comprising a first portion of the composite image;

providing first registration marks distributed along a length of the first film;

providing a second film, the second film comprising second registration marks distributed along a length of the second film and a second portion of the composite image;

aligning the second portion of the composite image on the second film with the first portion of the composite image on the first film;

dispensing the second film under tension along the length of the second film;

detecting the first and second registration marks during the dispensing;

varying the tension along the length of the second film based on the detection of the first and second registration marks to register the first and second portions of the composite image along the lengths of the first and second films; and

applying the second film to the substrate.

2. A method according to claim 1, wherein the tension under which the second film is dispensed is continuously applied to the second film during the dispensing.

3. A method according to claim 1, wherein the first registration marks are located on the first film.

4. A method according to claim 1, wherein the first registration marks are visible before the second film is applied to the substrate, and further wherein applying the second film comprises locating the second film over the first registration marks.

5. A method according to claim 1, wherein the second registration marks are visible.

6. A method according to claim 5, further comprising removing at least some of the second registration marks from the second film.

7. A method according to claim 6, wherein the removing comprises removing a portion of the second film.

8. A method according to claim 7, wherein the removing occurs before the second film is applied to the substrate.

9. A method according to claim 1, wherein the first registration marks are invisible.

10. A method according to claim 1, wherein the first registration marks are washable.

11. A method according to claim 1, wherein the second registration marks are invisible.

12. A method according to claim 1, wherein the second registration marks are washable.

13. A method according to claim 1, wherein the second film is attached to a liner as dispensed.

14. A method according to claim 1, wherein the first and second registration marks are distributed in regular intervals.

15. A method according to claim 1, wherein the second film is dispensed from a roll.

16. A method according to claim 15, wherein the second film comprises an orientation indicator proximate an outside end.

17. A method according to claim 1, wherein the first and second films each comprise a width transverse to their length, and wherein the method further comprises registering the first and second portions of the composite image across the widths of the first and second films.

18. A method according to claim 17, wherein registering the first and second portions of the composite image across the widths of the first and second films comprises detecting a distance between a leading edge and a trailing edge of the second registration marks, wherein that distance is indicative of a position across the width of the second film.

19. A method according to claim 1, wherein providing the first film on the substrate comprises applying the first film to the substrate under tension.

20. A method according to claim 1, wherein the first film is applied to the substrate by dispensing the first film from a roll.

21. A method according to claim 1, wherein the composite image, first film, and second film each comprise a continuous length of at least about 5 meters.

22. A method according to claim 1, wherein the composite image, first film, and second film each comprise a continuous length of at least about 10 meters.

23. A method of providing a composite image on a substrate, the method comprising:

providing a first film on the substrate, the first film comprising a first portion of the composite image;

providing visible first registration marks distributed along a length of the first film;

providing a second film, the second film comprising visible second registration marks distributed along a length of the second film and a second portion of the composite image;

aligning the second portion of the composite image on the second film with the first portion of the composite image on the first film;

dispensing the second film under tension along the length of the second film;

detecting the first and second registration marks during the dispensing;

varying the tension along the length of the second film based on the detection of the first and second registration marks to register the first and second portions of the composite image along the lengths of the first and second films;

applying the second film to the substrate and the first film such that a portion of the second film is located over the first registration marks on the first film; and

removing the second registration marks from the second film.

24. A method according to claim 23, wherein the removing comprises removing a portion of the second film.

25. A method according to claim 24, wherein the removing occurs before the second film is applied to the substrate.

34. A method of providing a composite image on a substrate, the method comprising:

applying a first film to the substrate while inducing a constant stretch to the first film, the first film comprising a first portion of the composite image;

providing first registration marks distributed along a length of the first film;

providing a second film to the substrate, the second film comprising second registration marks distributed along a length of the second film and a second portion of the composite image;

dispensing the second film under tension along the length of the second film;

detecting the first registration marks and the second registration marks while dispensing the second film;

varying the tension along the length of the second film based on the detection of the first registration marks and the second registration marks to register the first portion and the second portion of the composite image along the lengths of the first film and the second film; and

applying the second film to the substrate while varying the tension along the length of the second film, wherein the second portion of the composite image on the second film is aligned with the first portion of the composite image on the first film.

35. A method according to claim 34, further comprising removing the second registration marks from the second film.

36. A method according to claim 35, wherein removing the second registration marks from the second film comprises removing a portion of the second film.

37. A method according to claim 35, wherein removing the second registration marks from the second film comprises cutting the second film before the second film is applied to the substrate.

38. A method according to claim 34, wherein the first registration marks are invisible.

39. A method according to claim 34, wherein the first registration marks are washable.

40. A method according to claim 34, wherein the second registration marks are invisible.

41. A method according to claim 34, wherein the second registration marks are washable.

42. A method according to claim 34, further comprising:

detecting a distance between a leading edge and a trailing edge of one second registration mark of the plurality of second registration marks, wherein the distance between the leading edge and the trailing edge is indicative of a position across the width of the second film; and

steering the second film to register the second portion of the composite image to the first portion of the composite image in a direction transverse to the length of the second film.

43. A method according to claim 34, further comprising:

detecting a distance between a leading edge and a trailing edge of the plurality of second registration marks, wherein the detected distance is indicative of a position across the width of the second film; and

steering the second film to register the second portion of the composite image to the first portion of the composite image in a direction transverse to the length of the second film.

44. A method of providing a composite image on a substrate, the method comprising:

providing a first film on the substrate, the first film comprising a first portion of the composite image;

providing first registration marks distributed along a length of the first film;

providing a second film, the second film comprising second registration marks distributed along a length of the second film and a second portion of the composite image;

aligning the second portion of the composite image on the second film with the first portion of the composite image on the first film;

dispensing the second film under tension along the length of the second film;

detecting the first and second registration marks during the dispensing;

varying the tension along the length of the second film based on the detection of the first and second registration marks to register the first and second portions of the composite image along the lengths of the first and second films;

removing the second registration marks from the second film; and

applying the second film to the substrate after removing the second registration marks from the second film.

45. A method according to claim 44, wherein removing the second registration marks from the second film comprises removing a portion of the second film.

46. A method according to claim 44, wherein removing the second registration marks from the second film comprises cutting the second film.

47. A method of providing a composite image on a substrate, the method comprising:

providing a first film on the substrate, the first film comprising a first portion of the composite image;

providing first registration marks distributed along a length of the first film;

providing a second film, the second film comprising second registration marks distributed along a length of the second film and a second portion of the composite image;

aligning the second portion of the composite image on the second film with the first portion of the composite image on the first film;

dispensing the second film under tension along the length of the second film;

detecting the first and second registration marks during the dispensing;

varying the tension along the length of the second film based on the detection of the first and second registration marks to register the first and second portions of the composite image along the lengths of the first and second films;

detecting a distance between a leading edge and a trailing edge of the plurality of second registration marks, wherein the detected distance is indicative of a position across the width of the second film; and

steering the second film to register the second portion of the composite image to the first portion of the composite image in a direction transverse to the length of the second film; and

applying the second film to the substrate after the steering.

APPENDIX II.

Serial No.: 09/626,621

Docket No.: 55679US002

Nonfinal Office Action mailed from the U.S. Patent and Trademark Office on March 21, 2002.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/626,621	07/27/2000	Conrad V. Anderson	55679USA2A.002	2487

7590 03/21/2002

Dale A Bjorkman
Office of Intellectual Property Counsel
3M Innovative Properties Company
P O Box 33427
St Paul, MN 55133-3427

EXAMINER	
PURVIS, SUE A	
ART UNIT	**PAPER NUMBER**
1734	7

DATE MAILED: 03/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

The below text replaces the pre-printed text under the headi "Information on How to Effect Drawing Changes," on the ba of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.

Office Action Summary	Application N .	Applicant(s)	
	09/626,621	ANDERSON ET AL.	
	Examiner	Art Unit	
	Sue A Purvis	1734	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondenc address --

P riod f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5,6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-33 rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk (US Patent No. 5,252,166) and Jensen, Jr. (US Patent No. 4,795,513).

Pages 1 and 2 of the instant specification teaches that previously a composite image was formed on the surface of a substrate manually by a skilled applicator who would pull or stretch each film slightly, thus varying its tension, as it was being applied to a maintain registration between the different panels used to form the composite image.

The admitted prior art does not teach using registration marks on the film and aligning those registration marks up.

Krawczyk discloses a method of mounting multiple plastic sheets where the dimensions of the composite image are greater than the dimension of the plastic sheets. (Figures 17 and 18). Each portion has guidelines thereon for which are used to help align the design properly.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include guides or registration marks in the method of the admitted prior

art, because while in some instances a skilled artisan only needs to look at the composite image in order to align it properly images on separate sheets, there are instances where guidelines or registration marks would be helpful in aligning images on separate sheets as taught by Krawczyk.

The admitted prior art in view of Krawczyk does not teach varying the tension on the second film along the length of the film to help ensure the marks are aligned properly.

Jensen, Jr. teaches forming a two-layered composite, 16, formed by the lamination of paper web, 14, with film web, 12. The paper layer, 14, has a perforated pattern, 24, and the plastic layer, 12, has a target area, 28, positioned in registration with the area, 24. A register control system is adapted to provide proper registration between the perforated pattern, 24, and the target area, 28. During operation the length of the film web is stretched or shrunk in order for it to be properly aligned with the paper web. (Col. 7, lines 12-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the tension on the length second web thus stretching or shrinking the space between the registration marks, because Jensen, Jr. teaches such steps are known ways of aligning webs.

Regarding claims 9-12, invisible and washable registration marks are within the purview of one having ordinary skill in the art, because it would be preferable that the alignment marks not be intrusive to the composite image.

Regarding claim 20, it is noted the film in Jensen, Jr. is fed in roll form, furthermore typically wallpaper or carpet, items which are applied to a static structure such as the instant invention, are typically stored in roll form.

Regarding claims 21 and 22, a length of 5 meters and 10 meters is within the purview of one having ordinary skill in the art. The admitted prior art states 3 meters, however an artisan would know that the longer the length of the web, the less likely two webs will need to be used side by side and less chance for improper alignment.

Drawings

3. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Harris (US Patent No. 5,950,319) discloses a reference marking system on construction material. Shannon (US Patent No. 4,806,184) discloses a wallpaper applicator for aligning wallpaper.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue A Purvis whose telephone number is 703-305-0507. The examiner can normally be reached on Monday, Tuesday, Thursday, and Friday 7am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rick Crispino can be reached on 703-308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5665.

Sue A Purvis
Examiner
Art Unit 1734

sp
March 15, 2002

RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

INFORMATION DISCLOSURE STATEMENT

Atty. Docket No.: 55679 USA 2A	Serial No.: 09/626,621
Applicant(s):	
Filing Date: 27 July 2000	Group: 2854

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	SubClass	Filing Date If Appropriate
		NONE					

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	SubClass	Translation Yes	Translation No
SP		0 354 230 B1	02/14/90	EP				
		2 300 249	09/03/76	France			X	
		WO 97/31077	08/28/97	PCT				

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

SP			Brady, H., "Ten Steps to Successful Vinyl Truck Lettering," SignCraft Magazine, Issue 74, January/February 1994.

EXAMINER	Date Considered
	3/15/02

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

OMB No. 0651-0011

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 55679US002	Serial No.: 09/626,621
	Applicant(s): Conrad V. Anderson et al.	
	Filing Date: July 27, 2000	Group: 2854

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	SubClass	Filing Date If Appropriate
SP		4,964,070	10-16-90	Markoff et al.			
		5,217,550	6-8-93	Takeuchi et al.			
		5,389,476	2-14-95	Kruchko			

FOREIGN PATENT DOCUMENTS

		Document Number	Date of Publication	Country	Class	SubClass	Translation	
							Yes	No
SP		WO 97/21206	12.06.97	PCT				

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

EXAMINER	Date Considered
	3/15/02

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Notice of References Cited	Application/Control No. 09/626,621	Applicant(s)/Patent Under Reexamination ANDERSON ET AL.	
	Examiner Sue A Purvis	Art Unit 1734	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,950,319	09-1999	Harris, David Neal	33/1B
	B	US-5,252,166	10-1993	Krawczyk, Margaret M.	156/71
	C	US-4,806,184	02-1989	Shannon, Brian P.	156/577
	D	US-4,795,513	01-1989	Jensen, Jr., James W.	156/361
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

APPENDIX III.

Serial No.: 09/626,621

Docket No.: 55679US002

Response filed June 20, 2002.

TO:Auto-reply fax to 1 612 305 1228 COMPANY:

Auto-Reply Facsimile Transmission

UNITED STATES PATENT AND TRADEMARK OFFICE

TO: Fax Sender at 1 612 305 1228

Fax Information
Date Received: 6/20/02 2:32:16 PM [Eastern Daylight Time]
Total Pages: 9 (including cover page)

ADVISORY: This is an automatically generated return receipt confirmation of the facsimile transmission received by the Office. Please check to make sure that the number of pages listed as received in Total Pages above matches what was intended to be sent. Applicants are advised to retain this receipt in the unlikely event that proof of this facsimile transmission is necessary. Applicants are also advised to use the certificate of facsimile transmission procedures set forth in 37 CFR 1.8(a) and (b), 37 CFR 1.6(f). Trademark Applicants, also see the Trademark Manual of Examining Procedure (TMEP) section 702.04 et seq.

Received Cover Page ========>

06/20/02 THU 13:35 FAX 1 612 305 1228 MUETING & RAASCH 001

PATENT
Docket No. 55679 US 002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Conrad V. ANDERSON et al.
Serial No.: 09/626,621
Confirmation No.: 2487
Filed: 27 July 2000
Group Art Unit: 1734
Examiner: Sue Purvis

For: GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS

FACSIMILE TRANSMISSION TO THE PTO

Assistant Commissioner for Patents
Attn: Examiner Sue Purvis
Washington, D.C. 20231

FAX NUMBER: (703) 872-9310
Total Pages (including cover page): 9 pgs.
Time: 1:32 p.m. (Central Time)
(Transmission must be complete by midnight eastern time.)

The following papers are being transmitted to the Patent and Trademark Office by facsimile transmission: Response (8 pgs).

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Mueting, Raasch & Gebhardt, P.A.
Customer Number: 26813

26813

20 JUNE 2002
Date

By: Kevin W. Raasch
Reg. No. 35,651
Direct Dial (612)305-1218

CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this Facsimile Cover Sheet and the paper(s), as described hereinabove, are being transmitted by facsimile in accordance with 37 CFR 1.6(d) to the Patent and Trademark Office addressed to Assistant Commissioner for Patents, Washington, D.C. 20231, on this 20th day of June, 2002, at 1:32 p.m. (Central Time).

20 June 2002
Date

Signature: Paul D. Gebhardt
Name: Paul D. Gebhardt

If you do not receive all pages, please contact us at (612)305-1220 (ph) or (612)305-1228 (fax).

Received from <1 612 305 1228> at 6/20/02 2:32:16 PM [Eastern Daylight Time]

PATENT
Docket No. 55679 US 002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Conrad V. ANDERSON et al.)	Group Art Unit:	1734
Serial No.:	09/626,621)	Examiner:	Sue Purvis
Confirmation No.:	2487)		
Filed:	27 July 2000)		

For: GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS

FACSIMILE TRANSMISSION TO THE PTO

Assistant Commissioner for Patents
Attn: Examiner Sue Purvis
Washington, D.C. 20231

FAX NUMBER: (703) 872-9310
Total Pages (including cover page): 9 pgs.
Time: 1:32 p.m. (Central Time)
(Transmission must be complete by midnight eastern time.)

The following papers are being transmitted to the Patent and Trademark Office by facsimile transmission: Response (8 pgs).

Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 13-4895.

Mueting, Raasch & Gebhardt, P.A.
Customer Number: 26813

26813
PATENT TRADEMARK OFFICE

20 JUNE 2002
Date

By: Kevin W. Raasch
Reg. No. 35,651
Direct Dial (612)305-1218

CERTIFICATE UNDER 37 C.F.R. §1.8: The undersigned hereby certifies that this Facsimile Cover Sheet and the paper(s), as described hereinabove, are being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office addressed to Assistant Commissioner for Patents, Washington, D.C. 20231, on this 20th day of June, 2002, at 1:32 p.m. (Central Time).

20 June 2002
Date

Signature: Rachel Goglindi Gebhardt

Name: Rachel Goglindi Gebhardt

If you do not receive all pages, please contact us at (612)305-1220 (ph) or (612)305-1228 (fax).

PATENT
Docket No. 55679 US 002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Conrad V. ANDERSON et al.)	Group Art Unit:	1734
Serial No.:	09/626,621)	Examiner:	Sue Purvis
Confirmation No.:	2487)		
Filed:	27 July 2000)		

For: GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS

RESPONSE

Assistant Commissioner for Patents
Washington D.C. 20231

Dear Sir:

The Office Action mailed 21 March 2002 has been received and reviewed. Applicants provide comments to the Office Action in the Remarks section below.

Remarks

The Office Action mailed 21 March 2002 has been received and reviewed. No claims were amended or added. Claims 1-33 are pending. Reconsideration and withdrawal of the rejections are respectfully requested.

The 35 U.S.C. §103 Rejection

Claims 1-33 were rejected under 35 U.S.C. §103 as being unpatentable over asserted prior art in view of U.S. Patent No. 5,252,166 to Krawczyk (hereinafter "Krawczyk") and U.S. Patent No. 4,795,513 to Jensen, Jr. (hereinafter "Jensen"). Applicants respectfully traverse the rejection of claims 1-33.

Claims 1, 23, and 26

Applicants respectfully traverse the rejection of independent claims 1, 23, and 26, and respectfully submit that the cited documents fail to support a proper *prima facie* case of obviousness, as follows.

It is asserted in the Office Action that "the instant specification teaches that previously a composite image was formed on the surface of a substrate manually by a skilled applicator who would pull or stretch each film slightly, thus varying the tension, as it was being applied to a registration between the different panels used to form the composite image." However, "[t]he admitted prior art does not teach using registration marks on the film and aligning those registration marks up" (Office Action, page 2). It is also asserted that Krawczyk discloses a method of mounting multiple plastic sheets where . . . each portion has guidelines thereon for which are used to help align the design properly." It is concluded in the Office Action that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to include guides or registration marks in the method of the admitted prior art, because [for] a skilled artisan . . . there are instances where guidelines or registration marks would be helpful in aligning images on separate sheets as taught by Krawczyk."

It is conceded in the Office Action that "[t]he admitted prior art in view of Krawczyk does not teach varying the tension on the second film along the length of the film to help ensure the marks are aligned properly", but that because Jensen "teaches . . . ways of aligning webs" it would have been "obvious to one having ordinary skill in the art a the time the invention was made to vary the tension on the length second web thus stretching or shrinking the space between the registration marks."

Applicants respectfully traverse these assertions and submit that the documents cited in the Office Action fail to support a proper *prima facie* case of obviousness. For example, the cited documents fail to support the asserted suggestion or motivation to modify or combine the reference teachings, because the proposed combination would change the principle operation of

the prior art invention being modified. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teaching of the references are not sufficient to render the claims *prima facie* obvious (M.P.E.P. 2143.01). Applicants' analysis as to how the proposed modification or combination of the prior art changes the principle of operation of the prior art is presented below.

Krawczyk teaches that "items to be subsequently mounted" are packaged in "plastic sheets" where "one sheet includes an adhesive layer that adheres to the front face of the item" (Abstract). Krawczyk recognizes that "added care must be used when urging the sheet 12 against loose pieces so as not to change the relative position of the various tile pieces" (Col. 7, lines 51-56). In other words, Krawczyk teaches that it is undesirable to change the relative positions of the tile pieces.

Applying the teachings of Jensen to Krawczyk as asserted in support of this rejection would, however, necessarily result in changing the relative positions of the tile pieces as the sheet 12 was stretched as taught by Jensen. This would result in a distorted composite image for Krawczyk, a result which Krawczyk teaches is undesirable. Thus, the proposed combination of Jensen with Krawczyk would change the principle of operation of at Krawczyk, and as such the teaching of the references are not sufficient to render the claims *prima facie* obvious.

Applicants respectfully request reconsideration and allowance of claims 1, 23, and 26.

Claims 2-8, 13-19, 24, 25, and 27-33

Applicants respectfully traverse the rejection of claims 2-8, 13-19, 24, 25, and 27-33, as follows.

For claim 2, Applicants respectfully submit that the Office Action does not present a proper *prima facie* case of obviousness as the Office Action did not explain with reasonable specificity the grounds for the obviousness rejection of claim 2. In particular, the Office Action did not explain with reasonable specificity what portions of the cited documents were relied upon

for teaching or suggesting that the tension under which the second film is dispensed is continuously applied to the second film during the dispensing, as recited in claim 2.

In addition, the cited documents fail to support a proper *prima facie* case of obviousness for claim 2. For example, the cited documents fail to teach or suggest all the elements of claim 2. In particular, the cited documents fail to teach or suggest that the tension under which the second film is dispensed is continuously applied to the second film during the dispensing, as recited in claim 2.

For claims 3-5, 13, 15, 16, 32, and 33, Applicants respectfully submit that each claim is a dependent claim of either independent claim 1 or 26. Applicants respectfully repeat the arguments presented above for independent claims 1 and 26 that the cited documents fail to support a proper *prima facie* case of obviousness. As such, the Office Action fails to establish a *prima facie* case of obviousness for the rejection of claims 3-5, 13, 15, 16, 32, and 33.

For claims 6-8, 24, and 25 Applicants respectfully submit that the Office Action does not present a proper *prima facie* case of obviousness as the Office Action did not explain with reasonable specificity the grounds for the obviousness rejection of claims 6-8, 24, and 25. In particular, the Office Action did not explain with reasonable specificity what portions of the cited documents were relied upon for teaching or suggesting that at least some of the second registration marks were removed from the second film, as recited in claim 6; that removing comprises removing a portion of the second film, as recited in claims 7 and 24; or that removing occurs before the second film is applied to the substrate, as recited in claims 8 and 25.

In addition, the cited documents fail to support a proper *prima facie* case of obviousness for claims 6-8, 24, and 25. For example, the cited documents fail to teach or suggest all the elements of claims 6-8, 24, and 25. In particular, the cited documents fail to teach or suggest that at least some of the second registration marks are removed from the second film, as recited in claim 6; the cited documents fail to teach or suggest that removing the second registration marks from the second film comprises removing a portion of the second film, as recited in claims 7 and

24; and the cited documents fail to teach or suggest that removing the second registration marks from the second film occurs before the second film is applied to the substrate, as recited in claims 8 and 25.

For claim 14, Applicants respectfully submit that the Office Action does not present a proper *prima facie* case of obviousness as the Office Action did not explain with reasonable specificity the grounds for the obviousness rejection of claim 14. In particular, the Office Action did not explain with reasonable specificity what portions of the cited documents were relied upon for teaching or suggesting that the first and second registration marks are distributed in regular intervals, as recited in claim 14.

In addition, the cited documents fail to support a proper *prima facie* case of obviousness for claim 14. For example, the cited documents fail to teach or suggest all the elements of claim 14. In particular, the cited documents fail to teach or suggest that the first and second registration marks are distributed in regular intervals, as recited in claim 14.

For claims 17 and 18 Applicants respectfully submit that the Office Action does not present a proper *prima facie* case of obviousness as the Office Action did not explain with reasonable specificity the grounds for the obviousness rejection of claims 17 and 18. In particular, the Office Action did not explain with reasonable specificity what portions of the cited documents were relied upon for teaching or suggesting registering a first and second portions of a composite image across the widths of the first and second films, as recited in claim 17; and what portions of the cited documents were relied upon for teaching or suggesting detecting a distance between a leading edge and a trailing edge of the second registration marks, wherein that distance is indicative of a position across the width of the second film, as recited in claim 18.

In addition, the cited documents fail to support a proper *prima facie* case of obviousness for claims 17 and 18. For example, the cited documents fail to teach or suggest all the elements of claims 17 and 18. In particular, the cited documents fail to teach or suggest registering a first and second portions of a composite image across the widths of the first and second films, as

recited in claim 17; and detecting a distance between a leading edge and a trailing edge of the second registration marks, wherein that distance is indicative of a position across the width of the second film, as recited in claim 18.

For claim 19, Applicants respectfully submit that the Office Action does not present a proper *prima facie* case of obviousness as the Office Action did not explain with reasonable specificity the grounds for the obviousness rejection of claim 19. In particular, the Office Action did not explain with reasonable specificity what portions of the cited documents were relied upon for teaching or suggesting that providing the first film on the substrate comprises applying the first film to the substrate under tension, as recited in claim 19.

In addition, the cited documents fail to support a proper *prima facie* case of obviousness for claim 19. For example, the cited documents fail to teach or suggest all the elements of claim 19. In particular, the cited documents fail to teach or suggest that providing the first film on the substrate comprises applying the first film to the substrate under tension, as recited in claim 19.

For claims 27-31, Applicants respectfully submit that the Office Action does not present a proper *prima facie* case of obviousness as the Office Action did not explain with reasonable specificity the grounds for the obviousness rejection of claims 27-31. In particular, the Office Action did not explain with reasonable specificity what portions of the cited documents were relied upon for teaching or suggesting that the first and second registration marks are invisible, as recited in claim 27; that the second registration marks are invisible, as recited in claim 28; that the second registration marks are washable, as recited in claim 29; that the first and second films are provided in roll form, as recited in claim 30; and that the lengths of the first and second films are at least as great as the length of the composite image, as recited in claim 31.

In addition, the cited documents fail to support a proper *prima facie* case of obviousness for claims 27-31. For example, the cited documents fail to teach or suggest all the elements of claims 27-31. In particular, the cited documents fail to teach or suggest that the first and second registration marks are invisible, as recited in claim 27; that the second registration marks are

invisible, as recited in claim 28; that the second registration marks are washable, as recited in claim 29; that the first and second films are provided in roll form, as recited in claim 30; and that the lengths of the first and second films are at least as great as the length of the composite image, as recited in claim 31.

Applicants respectfully request reconsideration and allowance of claims 2-8, 13-19, 24, 25, and 27-33.

Claims 9-12

It is asserted in the Office Action that "[r]egarding claims 9-12, invisible and washable registration marks are within the purview of one having ordinary skill in the art, because it would be preferable that the alignment marks not be intrusive to the composite image." Applicants respectfully traverse theses assertions and request one or more documents in support of the assertions as required by M.P.E.P. 2144.03.

Claims 20-22

For claims 20-22, Applicants respectfully submit that claims 20-22 are dependent claims of independent claim 1. Applicants respectfully repeat the arguments presented above for independent claim 1 that the cited documents fail to support a proper *prima facie* case of obviousness and that a proper *prima facie* case of obviousness has not been presented in the Office Action. As such, the Office Action fails to establish a *prima facie* case of obviousness for the rejection of claims 20-22.

Applicant(s): Conrad V. ANDERSON et al.
Serial No.: 09/626,621
Confirmation No.: 2487
Filed: 27 July 2000
For: GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS

Summary

It is respectfully submitted that the pending claims 1-33 are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted for
Conrad V. ANDERSON et al.

By
Mueting, Raasch & Gebhardt, P.A.
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20 JUNE 2002
Date

By: KW Raasch
Kevin W. Raasch
Reg. No. 35,651
Direct Dial (612)305-1218

CERTIFICATE UNDER 37 CFR §1.8:
The undersigned hereby certifies that this paper is being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to Assistant Commissioner for Patents, Washington, D.C. 20231, on this 20th day of June, 2002, at 1:32 p.m. (Central Time).

By: Rachel Gaglindi-Graham
Name: Rachel Gaglindi-Graham

APPENDIX IV.

Serial No.: 09/626,621

Docket No.: 55679US002

Final Office Action mailed from the U.S. Patent and Trademark Office on August 29, 2002.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/626,621	07/27/2000	Conrad V. Anderson	55679~~USA2A.002~~	2487

7590 08/29/2002

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EXAMINER	
PURVIS, SUE A	
ART UNIT	**PAPER NUMBER**
1734	10

DATE MAILED: 08/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/626,621	ANDERSON ET AL.	
	Examiner	Art Unit	
	Sue A. Purvis	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2002*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4)☐ Interview Summary (PTO-413) Paper No(s). _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other:

DETAILED ACTION

Specification

1. The substitute specification filed 01 August 2002 has not been entered because it does not conform to 37 CFR 1.125(b)because: there is no marked up copy of the specification showing the changes.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-33 rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk (US Patent No. 5,252,166) and Jensen, Jr. (US Patent No. 4,795,513).

Pages 1 and 2 of the instant specification teaches that previously a composite image was formed on the surface of a substrate manually by a skilled applicator who would pull or stretch each film slightly, thus varying its tension, as it was being applied to a maintain registration between the different panels used to form the composite image.

The admitted prior art does not teach using registration marks on the film and aligning those registration marks up.

Krawczyk discloses a method of mounting multiple plastic sheets where the dimensions of the composite image are greater than the dimension of the plastic sheets. (Figures 17 and 18). Each portion has guidelines thereon for which are used to help align the design properly.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include guides or registration marks in the method of the admitted prior art, because while in some instances a skilled artisan only needs to look at the composite image in order to align it properly images on separate sheets, there are instances where guidelines or registration marks would be helpful in aligning images on separate sheets as taught by Krawczyk.

The admitted prior art in view of Krawczyk does not teach varying the tension on the second film along the length of the film to help ensure the marks are aligned properly.

Jensen, Jr. teaches forming a two-layered composite, 16, formed by the lamination of paper web, 14, with film web, 12. The paper layer, 14, has a perforated pattern, 24, and the plastic layer, 12, has a target area, 28, positioned in registration with the area, 24. A register control system is adapted to provide proper registration between the perforated pattern, 24, and the target area, 28. During operation the length of the film web is stretched or shrunk in order for it to be properly aligned with the paper web. (Col. 7, lines 12-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the tension on the length second web thus stretching or shrinking the space between the registration marks, because Jensen, Jr. teaches such steps are known ways of aligning webs.

Regarding claims 9-12, invisible and washable registration marks are within the purview of one having ordinary skill in the art, because it would be preferable that the alignment marks not be intrusive to the composite image.

Regarding claim 20, it is noted the film in Jensen, Jr. is fed in roll form, furthermore typically wallpaper or carpet, items which are applied to a static structure such as the instant invention, are typically stored in roll form.

Regarding claims 21 and 22, a length of 5 meters and 10 meters is within the purview of one having ordinary skill in the art. The admitted prior art states 3 meters, however an artisan would know that the longer the length of the web, the less likely two webs will need to be used side by side and less chance for improper alignment.

Response to Arguments

4. Applicant's arguments filed 20 June 2002 have been fully considered but they are not persuasive.

5. In response to applicant's argument that applying the teachings of Jensen to Krawczyk results in an undesirable result, applicant is reminded, the combination used by the examiner is the admitted prior art in view of Krawczyk and Jensen. The admitted prior art being the primary reference and Krawczyk relied upon solely for the use of reference marks along with decorative images. Jensen is relied upon to show that varying the tension in a web is known to be used when aligning webs. Thus, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375

(Fed. Cir. 1986). Here, the proposed modification to the admitted prior art is to add references marks, and then the teachings of Jensen are used. There is no suggestion of modifying the teachings of Krawczyk as set forth by the applicant.

6. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

7. Regarding claim 2, applicant sets out in claim 1, that the second film is dispensed "under tension along the length of the second film"; claim 2 states that this tension is "continuously applied to the second film during dispensing." As a film is dispensed "under tension" it seems to the examiner that tension must be applied continuously for the "length" of the film to be under tension as stated in claim 1. This is shown in Jensen and admitted in the applicant's art. When a film is dispensed or applied to a substrate, it must be so under a certain amount of tension, otherwise the film would become loose and bunch when adhered to another sheet, thus resulting in an undesirable outcome. Applicant's own art admits a manual tensioning means, Jensen also has a tensioning means as shown in Figure 1 of Jensen. The webs are fed around cylinders (not numbered) which helps to maintain tensioned web, then through nip (62) which engages the web and varies the rate of transfer, thus controlling the tension in the web.

8. Regarding claims 3-5, 13, 15, 16, 32, and 33, see the arguments in paragraphs 5 and 6.

9. Regarding claim 6, it is within the purview of the artisan to remove registration marks if less reference marks are desired by the artisan. It is also preferable to an artisan to have

reference marks which are not seen or at least hardly noticed in the final product. In Krawczyk, one embodiment discusses how the guidelines or reference lines are easily removable because they are made with an erasable marker. (Col. 16, lines 43-47). The artisan has no desire for the marks created for the sole purpose of lining up sheets of material to be noticed after installation is complete, thus they would either make the references so small that they are barely noticeable or have the capability of removing mark, as shown in Krawczyk.

10. Regarding claims 7 and 24, when joining two films together the films are stretched so that the registration marks line up, as a result one film may have a bit of excess which would result in removing a portion of the film along with the registration marks thereon. There could be a number of reasons for such an occurrence, such as one film's supply is greater than the other or the supply appears to be the same at first but by stretching the film to line up the references marks, the stretched film ends up having excess film. Another possibility is that the film is removed for the sole purpose of removing the reference marks, and this is an obvious alternative to washing off the reference marks and is also shown in Krawczyk. The pelican design in Figure 18 shows the design with the top sheets attached, the top sheets contain the guidelines. Once the adhesive is hardened, those top sheets are removed, thus the guidelines are removed. Thus it is the position of the examiner that to remove part of the sheet to remove the registration marks is within the purview of the artisan. This is also shown in a Hensley et al. (US Patent No. 6,354,984 B1) where reference marks are preferably confined inside trim areas (79) such that the cutting out of a respective trim area simultaneously (i) creates a desired new element of the work piece, namely the leg cut-out, and (ii) removes the reference mark which was used to register the graphic to the pad. (See Figures 3, 4, and 6; Col. 16, lines 65-68).

11. Regarding claims 8 and 25, removing the film before it is applied to the substrate is a matter of choice and within the purview of one of ordinary skill in the art. The choices are before or after and the artisan would know when it is preferable to remove any excess. Mitchell (US Patent No. 4,490,198) shows the excess material being trimmed after it is applied to the substrate. Shannon (US Patent No. 4,806,184) discloses that the material is cut to the desired length prior to application to the substrate. In Fritz (US Patent No. 1,498,618), mentioned in Shannon, it is also taught to cut the sheet prior to applying to a substrate. When the film should be cut, before or after applying the film to the substrate is within the purview of the artisan to decide, since both ways are known.

12. Regarding claim 14, it is within the interests of the artisan to distribute the reference marks in regular intervals. The other option being irregular intervals which would not serve the purpose the artisan had designed the registration marks for. This is introduced in the applicants own admitted prior art as well as in Krawczyk and Jensen, and the examiner fails to see why the applicant could not find this in the cited documents on their own. (See Jensen Figure 2, Krawczyk Figures 17 and 18).

13. Regarding claim 17, a direct result of aligning the reference marks is the alignment of the portions of the composite image. The purpose of the reference marks is to ensure that the composite image is aligned. This is shown in Figures 17 and 18 of Krawczyk.

14. Regarding claim 18, Jensen teaches a control which detects the distances between the reference marks in order to ensure the film is lined up properly and since the web is in tension across its width, that distance is indicative of a position across the width of the web, to be

otherwise would mean that one side of the web is stretched while the other being relaxed, thus creating a skewed web.

15. Regarding claim 19, applicant's own admitted prior art states the skilled applicator will stretch or pull each film slightly as it is applied to the substrate in order to maintain registration between the different panels.

16. Regarding claims 27-29, invisible and washable registration marks are within the purview of one having ordinary skill in the art, because it would be preferable that the alignment marks not be intrusive to the composite image. Washable marks are shown in Krawczyk as discussed in paragraph 10. Jensen discloses a mark (19) on one film, which would be invisible to the naked eye. Lerner et al. (US Patent No. 4,412,876) teaches a web position detector (64) which senses indicia on each successive label. The web position indicia are normally invisible, or nearly invisible, registration marks which are printed on each label.

17. Regarding claim 30, it is noted the film in Jensen, Jr. is fed in roll form, furthermore typically wallpaper or carpet, items which are applied to a static structure such as the instant invention, are typically stored in roll form.

18. Regarding claim 31, the length of the film being at least as great as the composite image is a design choice and based on what the composite image the artisan wants. In Krawczyk, the composite images on the films in Figures 17 and 18 are "at least as great" as the films length. In Shannon, the composite image is endless amounts of stars, whether this image is "at least as great" as the length depends on if the artisan considers the entire pattern to be the composite image or just one individual star. Thus it is the position of the examiner that to have the composite image "at least as great" as the length is within the purview of the artisan.

19. Regarding claims 9-12, see the arguments in paragraph 16.

20. Regarding claims 20-22, see the arguments in paragraphs 5 and 6.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue A. Purvis whose telephone number is 703-305-0507. The examiner can normally be reached on Monday through Thursday 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rick Crispino can be reached on 703-308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5665.

Sue A. Purvis
Examiner
Art Unit 1734

sp
August 24, 2002

RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Notice of References Cited	Application/Control No. 09/626,621	Applicant(s)/Patent Under Reexamination ANDERSON ET AL.	
	Examiner Sue A. Purvis	Art Unit 1734	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-6,354,984	03-2002	Hensley et al.	493/11
	B	US-4,490,198	12-1984	Mitchell, Larry L.	156/267
	C	US-4,412,876	11-1983	Lerner et al.	156/212
	D	US-1,498,618	06-1924	Fritz	156/526
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
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	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
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	P					
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	S					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

APPENDIX V.

Serial No.: 09/626,621

Docket No.: 55679US002

Response Under 37 C.F.R. §1.116 filed November 27, 2002.

TO:Auto-reply fax to 6123051228 COMPANY:

Auto-Reply Facsimile Transmission

UNITED STATES PATENT AND TRADEMARK OFFICE

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Expedited Examining Requested

PATENT
Docket No. 55679US002
(formerly 55679USA2A.002)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Conrad V. ANDERSON et al.)	Group Art Unit:	1734
Serial No.:	09/626,621	Examiner:	Sue Purvis
Confirmation No.:	2487		
Filed:	27 July 2000		

For: GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS

FACSIMILE TRANSMISSION TO THE PTO

Assistant Commissioner for Patents
Attn: Box AF
c/o Examiner Sue Purvis
Washington, D.C. 20231

FAX NUMBER: (703) 872-9310

Total Pages (including cover page): 8 page.
Time: 10:56 a.m. (Central Time)
(Transmission must be complete by midnight eastern time.)

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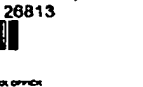
Mueting, Raasch & Gebhardt, P.A.
Customer Number: 26813



27 NOVEMBER 2002
Date

By: Kevin W. Raasch
Kevin W. Raasch
Reg. No. 35,651
Direct Dial (612)305-1218

CERTIFICATE UNDER 37 C.F.R. §1.8: The undersigned hereby certifies that this Facsimile Cover Sheet and the paper(s), as described hereinabove, are being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office addressed to Assistant Commissioner for Patents, Attn: Box AF, Washington, D.C. 20231, on this 27th day of November, 2002, at 10:56 a.m. (Central Time).

27 November 2002
Date

Signature: Rachel Coyle-Gebhardt

Name: Rachel Coyle-Gebhardt

If you do not receive all pages, please contact us at (612)305-1220 (ph) or (612)305-1228 (fax).

Expedited Examining Requested

PATENT
Docket No. 55679US002
(formerly 55679USA2A.002)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Conrad V. ANDERSON et al.)	Group Art Unit:	1734
Serial No.:	09/626,621)	Examiner:	Sue Purvis
Confirmation No.:	2487)		
Filed:	27 July 2000)		

For: GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS

FACSIMILE TRANSMISSION TO THE PTO

Assistant Commissioner for Patents
Attn: Box AF
c/o Examiner Sue Purvis
Washington, D.C. 20231

FAX NUMBER: (703) 872-9310

Total Pages (including cover page): 8 pgs.
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Customer Number: 26813

26813
PATENT TRADEMARK OFFICE

27 NOVEMBER 2002
Date

By: KWR
Kevin W. Raasch
Reg. No. 35,651
Direct Dial (612)305-1218

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27 November 2002
Date

Signature: Rachel Cieslak-Gebhardt

Name: Rachel Cieslak-Gebhardt

If you do not receive all pages, please contact us at (612)305-1220 (ph) or (612)305-1228 (fax).

OFFICIAL
Expedited Examining Procedure
Group 1734

PATENT
Docket No. 55679US002
(formerly 55679USA2A.002)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Conrad V. ANDERSON et al.)	Group Art Unit:	1734
Serial No.:	09/626,621)	Examiner:	Sue Purvis
Confirmation No.:	2487)		
Filed:	27 July 2000)		
For:	GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS		

RESPONSE UNDER 37 CFR §1.116

Assistant Commissioner for Patents
Attn: Box AF
Washington D.C. 20231

Dear Sir:

The Final Office Action mailed 29 August 2002 has been received and reviewed. No claims were amended. Claims 1-33 are pending. Reconsideration and withdrawal of the rejections are respectfully requested.

Finality of Office Action

A number of new documents were introduced and discussed relative to the rejections of claims 7, 8, 24, 25, and 27-29 (i.e., Hensley et al., U.S. Pat. No. 6,354,984; Shannon, U.S. Pat. No. 4,806,184; Mitchell, U.S. Pat. No. 4,490,198; Lerner et al., U.S. Pat. No. 4,412,876; and Fritz, U.S. Pat. No. 1,498,618).

Applicants respectfully submit that if the Examiner is relying on these new documents in rejecting claims 7, 8, 24, and 25, then the present Final Office Action is premature as the use of the new document introduces new grounds for the rejection of claims 7, 8, 24, and 25 that were

neither necessitated by an amendment (no claims have been amended), nor based on information submitted in an information disclosure statement by the Applicants under 37 C.F.R. § 1.97(c). *See, e.g.* MPEP § 706.07(c). In fact, the Examiner introduced all of the cited documents, except for Shannon, in the Final Office Action.

As a result, Applicants have not addressed the statements relating to these documents and do expressly reserve the right to traverse those assertions if the rejections are properly presented in a non-final Office Action.

The 35 U.S.C. 103 Rejection

Claims 1-33 were rejected under 35 U.S.C. 103 as being unpatentable over asserted admitted prior art in Applicants' own specification in view of U.S. Patent No. 5,252,166 to Krawczyk (hereinafter "Krawczyk") and U.S. Patent No. 4,795,513 to Jensen, Jr. (hereinafter "Jensen"). Applicants respectfully traverse the rejection of claims 1-33.

Claims 1, 23, and 26

Applicants respectfully traverse the rejection of independent claims 1, 23, and 26 because the cited documents fail to support a proper *prima facie* case of obviousness as follows.

The Office Action relies upon the asserted admitted prior art in view of Krawczyk and Jensen in rejecting claims 1, 23, and 26. The Office Action asserts that all the elements necessary to arrive at a *prima facie* case of obviousness against claims 1, 23, and 26 are present in the combination of the asserted admitted prior art, Krawczyk, and Jensen.

The Office Action, however, fails to identify a proper suggestion or a motivation as to why one skilled in the art would have chosen to modify the asserted admitted prior art in view of both Krawczyk and Jensen that is supported by the cited references as discussed in Applicants' previous response (dated March 21, 2002).

Briefly, Applicants noted that the cited documents failed to support the asserted suggestion or motivation to modify or combine the reference teachings because the proposed

combination would change the principle operation of the prior art invention being modified. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teaching of the references are not sufficient to render the claims prima facie obvious (M.P.E.P. 2143.01). Applicants were not, as asserted, attacking the references individually. Rather, Applicants pointed out that one skilled in the art would not have been motivated to look to the asserted combination of the asserted admitted prior art, Krawczyk and Jensen, as the combination of these documents would change the principle operation of the invention being modified.

In the absence of a properly supported suggestion or motivation to combine all three reference teachings, the only way of arriving at the claimed subject matter is by picking and choosing individual elements from Krawczyk and Jensen based on Applicants' disclosure. Nothing in the cited reference teachings would direct or motivate one skilled in the art to combine these three reference teachings as asserted in the absence of Applicants' own disclosure.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of this rejection as applied to claims 1-33. The rejections and/or assertions regarding specific claims or groups of claims are also addressed in more detail below.

With respect to claim 2, the rejection is premised on the manual tensioning of the asserted admitted prior art, as modified by the teachings of Jensen. The Office Action fails, however, to provide any reasoning as to why or how one of skill in the art would make the leap from a manual, panel-by-panel installation technique in which tension is sporadically applied in a variety of directions (e.g., across the width and length of each panel) to a method in which tension is applied only along the length of the film. In the absence of any identified suggestion or motivation to make that modification, it must be assumed that impermissible hindsight forms the basis for the rejection of claim 2. As such, a proper *prima facie* case of obviousness for claim 2 has not been established.

With respect to claims 6-8, Applicants note that none of the cited references teach removal of registration marks from a film. Any assertion that Krawczyk teaches removal of

guidelines from a film is not supported by the reference itself. In that regard, Applicants note that the section cited in support of the rejection of claim 6 (i.e., Col. 16, lines 43-47) teaches removing marks from the tiles, not the film as recited in the claims.

With respect to claims 7, 8, 24, & 25, Applicants note that no reference is cited as teaching removal of a portion of a second film. Paragraph 10 of the Office Action (page 6) contains some discussion regarding claims 7 & 24, but Applicants note that it does not address removal of only a portion of a film.

With respect to claims 8 & 25, Applicants note that no reference is cited as teaching removal of a portion of the second film before the second film is applied to the substrate. Nor is any reasoning provided as to why one of skill in the art would modify the prior art to remove a portion of the second film containing registration marks before attaching the second film to the substrate. For example, the reasoning provided based on Krawczyk discusses removing the entire top sheet, not a portion thereof.

Other assertions presented in support of the rejection of claims 8 & 25 are unsupported by any of the cited references (the asserted admitted prior art, Krawczyk and Jensen). For example, the Office Action presents the assertion that "removing the film before it is applied to the substrate is a matter of choice and within the purview of one of ordinary skill in the art. The choices are before or after and the artisan would know when it is preferable to remove any excess." That assertion is, however, not supported by any of the references that form the basis for this rejection. Furthermore, no reasoning is provided as to why one of skill in the art would be motivated to remove a registration mark used to align a film before the film is applied to the substrate (thereby complicating the registration process).

With respect to claims 9-12 and 27-29, Applicants submit that the Office Action also does not present a proper *prima facie* case of obviousness. For example, the Office Action does not identify which portions of the cited documents were relied upon for teaching or suggesting invisible registration marks. The Examiner asserted in, e.g., Paragraph 16, that Jensen "discloses a mark (19) on one film, which would be invisible to the naked eye", but fails to identify where

Jensen teaches that the mark is invisible to the naked eye. Furthermore, the Office Action relies on the discussion presented in Paragraph 10 of the Office Action to support the rejection of claims 27-29, but Applicants note that the section of Krawczyk cited in Paragraph 10 (i.e., Col. 16, lines 43-47) teaches removing marks from the tiles, not the film as recited in the claims.

The Examiner also asserts in Paragraph 16 that "[t]he web position indicia are normally invisible, or nearly invisible, registration marks which are printed on each label." Applicants are unable to understand the nature of this assertion and request clarification so that it may be properly addressed by Applicants.

With respect to claim 14, Applicants submit that the Office Action does not present a proper *prima facie* case of obviousness. The Office Action asserts that registration marks distributed in regular intervals are found in the asserted admitted prior art, but no particular teaching is cited in support thereof. Likewise, it is asserted that Krawczyk teaches registration marks distributed in regular intervals. In fact, however, the parallel matching vertical guide lines (126 and 128, 132 and 134, 136 and 138) in cited Figures 17 & 18 of Krawczyk are spaced at irregular intervals (note how lines 134 and 128 are space closer to 138 than lines 136, 132 and 126 in Figure 17 of Krawczyk).

With respect to claim 18, Applicants note that the claim recites a method for providing registration between two films across the width of the films, i.e., in a direction transverse to the length along which the second film is being dispensed. That process is based on detecting the leading and trailing edges of the second registration marks. *See, e.g.,* Specification, Page 7, lines 7-27 and Figure 1A. No such teachings are discussed in Jensen. Furthermore, the assertions presented in Paragraph 14 of the Office Action to support the rejection of claim 18 have no bearing on the actual invention recited in the claim. As a result, a *prima facie* case of obviousness has not been established with respect to claim 18.

With respect to claim 19, the asserted admitted prior art does not teach application of a first film under to a substrate under tension as asserted in the Office Action. Rather, panels

applied after the first panel may be discontinuously stretched or pulled in various directions during installation to align them with a previously applied panel.

With respect to claims 21 and 22, Applicants note that the asserted admitted prior art teaches away from the use of longer films because of the increasing difficulty in handling longer films in a manual application process. This is in direct contradiction to the assertions presented on page 4 of the Office Action, which are, therefore, unsupported by the cited references.

For the above reasons, Applicants respectfully submit that claims 1-33 are patentable over the cited references (the asserted admitted prior art, Krawczyk, and Jensen). Reconsideration and withdrawal of the rejection of these claims are, therefore, respectfully requested.

Summary

It is respectfully submitted that pending claims 1-33 are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted for
Conrad V. ANDERSON et al.

By
Mueting, Raasch & Gebhardt, P.A.
P.O. Box 581415
Minneapolis, MN 55458-1415
Phone: (612) 305-1220
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26813
PATENT TRADEMARK OFFICE

27 NOVEMBER 2002
Date

By: _____
Kevin W. Raasch
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CERTIFICATE UNDER 37 CFR §1.8:
The undersigned hereby certifies that this paper is being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to Assistant Commissioner for Patents, **Attn: Box AF**, Washington, D.C. 20231, on this 27th day of November, 2002, at 10:58 A.M. (Central Time).

By: _____
Name: Rachel Gagliardi-Graham

APPENDIX VI.

Serial No.: 09/626,621

Docket No.: 55679US002

Nonfinal Office Action mailed from the U.S. Patent and Trademark Office on December 10, 2002.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/626,621	07/27/2000	Conrad V. Anderson	55679USA2A.002	7487

7590 12/10/2002

Dale A Bjorkman
Office of Intellectual Property Counsel
3M Innovative Properties Company
P O Box 33427
St Paul, MN 55133-3427

EXAMINER	
PURVIS, SUE A	
ART UNIT	**PAPER NUMBER**
1734	

DATE MAILED: 12/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MK-12

Office Action Summary	Application No. 09/626,621	Applicant(s) ANDERSON ET AL.	
	Examiner Sue A. Purvis	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 November 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) *26-33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-25, drawn to method of providing a composite image on a substrate, classified in class 156, subclass 64.

II. Claims 26-33, drawn to an image graphic kit, classified in class 428, subclass 542.2.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions II and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product does not have to be used in a manner as detailed in the process.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Kevin W. Raash on 03 December 2002 a provisional election was made with traverse to prosecute the invention of I, claims 1-25. Affirmation of this election must be made by applicant in replying to this Office action. Claims 26-33 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-6 and 9-23 rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk (US Patent No. 5,252,166) and Jensen, Jr. (US Patent No. 4,795,513).

Pages 1 and 2 of the instant specification teaches that previously a composite image was formed on the surface of a substrate manually by a skilled applicator who would pull or stretch each film slightly, thus varying its tension, as it was being applied to a maintain registration between the different panels used to form the composite image.

The admitted prior art does not teach using registration marks on the film and aligning those registration marks up.

Krawczyk discloses a method of mounting multiple plastic sheets where the dimensions of the composite image are greater than the dimension of the plastic sheets. (Figures 17 and 18). Each portion has guidelines thereon for which are used to help align the design properly.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include guides or registration marks in the method of the admitted prior art, because while in some instances a skilled artisan only needs to look at the composite image in order to align it properly images on separate sheets, there are instances where guidelines or registration marks would be helpful in aligning images on separate sheets as taught by Krawczyk.

The admitted prior art in view of Krawczyk does not teach varying the tension on the second film along the length of the film to help ensure the marks are aligned properly.

Jensen, Jr. teaches forming a two-layered composite, 16, formed by the lamination of paper web, 14, with film web, 12. The paper layer, 14, has a perforated pattern, 24, and the plastic layer, 12, has a target area, 28, positioned in registration with the area, 24. A register control system is adapted to provide proper registration between the perforated pattern, 24, and

the target area, 28. During operation the length of the film web is stretched or shrunk in order for it to be properly aligned with the paper web. (Col. 7, lines 12-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the tension on the length second web thus stretching or shrinking the space between the registration marks, because Jensen, Jr. teaches such steps are known ways of aligning webs.

Regarding claim 2, applicant sets out in claim 1, that the second film is dispensed "under tension along the length of the second film"; claim 2 states that this tension is "continuously applied to the second film during dispensing." As a film is dispensed "under tension" it seems to the examiner that tension must be applied continuously for the "length" of the film to be under tension as stated in claim 1. This is shown in Jensen and admitted in the applicant's art. When a film is dispensed or applied to a substrate, it must be so under a certain amount of tension, otherwise the film would become loose and bunch when adhered to another sheet, thus resulting in an undesirable outcome. Applicants own art admits a manual tensioning means, Jensen also has a tensioning means as shown in Figure 1 of Jensen. The webs are fed around cylinders (not numbered) which helps to maintain tensioned web, then through nip (62) which engages the web and varies the rate of transfer, thus controlling the tension in the web.

Regarding claim 3, Krawczyk and Jensen disclose using reference marks for alignment purposes.

Regarding claims 4 and 5, reference marks must be visible in order to allow for proper alignment and aligning the reference marks of the two films is done in Krawczyk and Jensen.

Regarding claim 6, it is within the purview of the artisan to remove registration marks if less reference marks are desired by the artisan. It is also preferable to an artisan to have reference marks which are not seen or at least hardly noticed in the final product. In Krawczyk, one embodiment discusses how the guidelines or reference lines are easily removable because they are made with an erasable marker. (Col. 16, lines 43-47). The artisan has no desire for the marks created for the sole purpose of lining up sheets of material to be noticed after installation is complete, thus they would either make the references so small that they are barely noticeable or have the capability of removing mark, as shown in Krawczyk.

Regarding claims 7 and 24, when joining two films together the films are stretched so that the registration marks line up, as a result one film may have a bit of excess which would result in removing a portion of the film along with the registration marks thereon. There could be a number of reasons for such an occurrence, such as one film's supply is greater than the other or the supply appears to be the same at first but by stretching the film to line up the references marks, the stretched film ends up having excess film. Another possibility is that the film is removed for the sole purpose of removing the reference marks, and this is an obvious alternative to washing off the reference marks and is also shown in Krawczyk. The pelican design in Figure 18 shows the design with the top sheets attached, the top sheets contain the guidelines. Once the adhesive is hardened, those top sheets are removed, thus the guidelines are removed. Thus it is the position of the examiner that to remove part of the sheet to remove the registration marks is within the purview of the artisan. This is also shown in a Hensley et al. (US Patent No. 6,354,984 B1) where reference marks are preferably confined inside trim areas (79) such that the cutting out of a respective trim area simultaneously (i) creates a desired new element of the work

piece, namely the leg cut-out, and (ii) removes the reference mark which was used to register the graphic to the pad. (See Figures 3, 4, and 6; Col. 16, lines 65-68).

Regarding claims 10 and 12, invisible and washable registration marks are within the purview of one having ordinary skill in the art, because it would be preferable that the alignment marks not be intrusive to the composite image. Krawczyk discloses washable reference marks as mentioned above.

Regarding claim 13, Krawczyk shows the use of a liner and having a film attached to a liner, especially where one side of the film is adhesive is within the purview of one having ordinary skill in the art. The liner prevents the film from adhering to undesirable objects.

Regarding claim 14, it is within the interests of the artisan to distribute the reference marks in regular intervals. The other option being irregular intervals which would not serve the purpose the artisan had designed the registration marks for. This is introduced in the applicants own admitted prior art as well as in Krawczyk and Jensen. (See Figure 2 of Jensen).

Regarding claim 15, storing film on a roll is well known and conventional as seen in Jensen.

Regarding claim 16, the reference marks would act as orientation indicators since they enable the films to line up properly.

Regarding claim 17, a direct result of aligning the reference marks is the alignment of the portions of the composite image. The admitted prior art uses just the composite image for this alignment while Krawczyk and Jensen show that registration marks are another way of achieving the same result. Thus the alignment of the registration marks of the admitted prior art in view of

Krawczyk and Jensen would result in the composite image being aligned and registered across the width of the film.

Regarding claim 18, Jensen teaches control means that detects the distances between the reference marks in order to ensure the film is lined up properly. In determining the distance, as a result the "distance between a leading edge and a trailing edge" of the marks is found. Furthermore, since the web is in tension across its width, that distance is indicative of the position of the composite image across the width of the web, to be otherwise would mean that one side of the web is stretched while the other being relaxed, thus creating a skewed web.

Regarding claim 19, applicant's own admitted prior art states the skilled applicator will stretch or pull each film slightly as it is applied to the substrate in order to maintain registration between the different film panels.

Regarding claim 20, it is noted the film in Jensen, Jr. is fed in roll form, furthermore typically wallpaper or carpet, items which are applied to a static structure such as the instant invention, are typically stored in roll form.

9. Claims 8 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk and Jensen as applied to claims 1, 5-7, 23, and 24 above, and further in view of Shannon (US Patent No. 4,806,184) or Fritz (US Patent No. 1,498,618).

Admitted prior art in view of Krawczyk and Jensen does not show removing the film before it is applied to the substrate is a matter of choice and within the purview of one of ordinary skill in the art. The choices are before or after and the artisan would know when it is preferable to remove any excess. Mitchell (US Patent No. 4,490,198) shows the excess material being trimmed after it is applied to the substrate. In particular, however, Shannon discloses that

the material is cut to the desired length before application to the substrate. Fritz, mentioned in Shannon, also teaches to cut the sheet before applying to a substrate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made when the film should be cut, because Shannon and Fritz both teach the film being trimmed before applying the film to the substrate. Thus to do so is within the purview of the artisan.

10. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk and Jensen as applied to claims 1 above, and further in view of Easter (US Patent No. 4,620,888) or Roch (US Patent No. 5,138,667).

The admitted prior art uses the visible images for alignment purposes, Krawczyk, as discussed above, uses marks which are washable, so that they do not later interfere with the images. The marks (19) in Jensen are visible to the photoelectric eye (52). (Col. 7, lines 7-10).

Registration marks, such as those in Jensen, are designed to be unnoticed to the ordinary observer. This is further shown in Easter and Roch where the marks are "invisible". See claim 3 of Roch and column 5, lines 60-68 of Easter.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use invisible marks for registration purpose of both first and second films, because as shown in Easter and Roch these types marks are known and used in the art. They are used to align materials without interfering with the overall appearance.

11. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk and Jensen as applied to claims 1 above as applied to claim 1 above, and further in view of Shannon (US Patent No. 4,806,184).

A length of 5 meters and 10 meters is within the purview of one having ordinary skill in the art. The admitted prior art states 3 meters, however an artisan would know that the longer the length of the web, the less likely two webs will need to be used to cover a single surface and less chance for improper alignment. Shannon discloses a wallpaper applicator. Wallpaper is applied to rooms of varying sizes. As shown in Figure 14 of Shannon, the wallpaper is fed from a roller and placed side by side. This length of the material on the roll is not disclosed, but considering how the material is used in Shannon, it is the position of the examiner that the roll of material is more than 3 meters, because it is reused and an artisan would optimize the use of the device by making the roll as large as possible, thus minimizing the time it would take to refill the roll. Furthermore, the image on the wallpaper in Shannon is aligned as seen Figure 14.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the film as long as the skilled artisan needed for the purpose so desired. For instance, Shannon's supply is greater than the surface covered and the material along with the image is aligned. Methods which utilize a longer film, although not for aligning as in the instant invention, are Cousineau (US Patent No. 6,024,821) and Siker (US Patent No. 4,049,479). These references are only pulled to show that using a continuous sheet with an image thereon is known in the art.

Response to Arguments

12. Applicant's arguments filed 27 November 2002 have been fully considered but they are not persuasive.

13. Regarding the new documents cited in the previous office, the use of those documents by themselves is not sufficient reason for withdrawal of finality. The documents were relied upon principally to show that the material in the claims is considered to be "common knowledge" and therefore within the purview of the artisan. (See MPEP §2144.03). The examiner failed to address these claims properly in the rejection however, which is why finality has been withdrawn. The rejection was expanded for clarification purposes.

14. Examiner disagrees that the proposed combination of admitted prior art, Krawczyk, and Jensen would change the principle operation of the prior art being modified. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

15. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the need to align substrates with an image thereon is admitted in the prior art. A skilled applicator would stretch or pull the sheet to ensure proper alignment. Krawczyk and

Jensen do the same thing, only they teach using registration marks instead of the images on the articles.

16. While the applicant does not argue that Krawczyk and/or Jensen are nonanalogous art, the argument "that one skilled in the art would not have been motivated to look" at these two references in combination with the admitted prior implies that these are nonanalogous. Therefore the examiner would like to remind the applicant that it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Krawczyk and Jensen teach using registration marks for alignment purposes which is an issue in the admitted prior art, which relies solely on the images on the film.

17. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

18. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., tension is applied only along the length of the film) are not recited in the rejected claims. Although the

claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

19. Regarding applicant's argument with respect to claims 6 through 8, the applicant's "film" is set forth in the admitted prior art. The "tile" in Krawczyk is equivalent to the "film" because the manor in which the two are used is the same. "Film" is aligned with "film" in the admitted prior art and "tile" is aligned with "tile" in Krawczyk. Applicant is bodily incorporating the structure of Krawczyk into the admitted prior art. It is the combined teachings that the examiner is using. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

20. Regarding applicant's argument with respect to claims 7 and 24, the rejection above does address removing a "portion of the film."

21. Regarding applicant's argument with respect to claims 8 and 25, the rejection above discusses removal "before" the film is applied to a substrate.

22. Regarding applicant's arguments with respect to claims 9-12, in particular, regarding invisible registration marks, invisible registration marks would be useless, they must at some point be readable by an individual or a machine. In Jensen registration marks (19) which are visible to a photoelectric eye (52). While Jensen does not specifically say it, it is doubtful that those marks are visible to the naked eye. (Col. 7, lines 10-25). The rejection above has been expanded to address this issue. As for Krawczyk teaching removing marks from "tiles" not "films", see paragraph 18.

23. Regarding applicant's arguments with respect to claims 14, it is the examiner's position that using regular intervals for registration marks is well known and conventional. This is shown in Jensen. The idea of using regular intervals is supported by Krawczyk, because the spacing of

the intervals is well within the purview of the artisan. For additional support to show that spacing marks at regular intervals is well known and conventional, the examiner is citing three additional references: (1) in Bauknecht (US Patent No. 5,695,106) see Figure 3 and column 5, lines 47-64; (2) in Anderson et al. (US Patent No. 5,447,486) see column 6, lines 51-68 and column 7, lines 1-22; and (3) in Bradshaw (US Patent No. 5,431,763) see Figures 1 and 2, column 2, lines 20-24, and column 4, lines 21-29.

24. In response to applicant's argument for claim 18, that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., detecting the leading and trailing edges of the second registration marks) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

25. Regarding applicant's arguments with respect to claims 19, panels are only disclosed in Krawczyk, applicant's own admitted prior art teaches film being applied under tension.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Goodhill et al. (US Patent No. 6,450,644 B1), Inada (US Patent No. 6,452,147 B1), and Gough (US Patent No. 4,857,745) contain details regarding registration marks and their use.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue A. Purvis whose telephone number is 703-305-0507. The examiner can normally be reached on Monday through Thursday 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rick Crispino can be reached on 703-308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5665.

Sue A. Purvis
Examiner
Art Unit 1734

sp
December 4, 2002

RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Notice of Referenc s Cited	Application/Control No. 09/626,621	Applicant(s)/Patent Under Reexamination ANDERSON ET AL.	
	Examiner Sue A. Purvis	Art Unit 1734	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,138,667	08-1992	Roch et al.	382/112
	B	US-4,620,888	11-1986	Easter et al.	156/64
	C	US-5,695,106	12-1997	Bauknecht, Donald J.	226/2
	D	US-5,447,486	09-1995	Anderson et al.	493/11
	E	US-5,431,763	07-1995	Bradshaw, Franklin C.	156/256
	F	US-6,024,821	02-2000	Cousineau, Pierre	156/267
	G	US-4,049,479	09-1977	Siker, Stephen J.	156/71
	H	US-6,452,147	09-2002	Inada, Yasuyuki	250/208.1
	I	US-4,857,745	08-1989	Gough, Martin	250/548
	J	US-6,450,644	09-2002	Goodhill et al.	352/160
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

APPENDIX VII.

Serial No.: 09/626,621

Docket No.: 55679US002

Amendment and Response filed April 9, 2003.

TO:Auto-reply fax to 6123051228 COMPANY:

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04/09/2003 10:26 FAX 6123051228 MUETING RAASCH GEBHARDT 001

PATENT
Docket No. 55679US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Conrad V. ANDERSON et al.
Serial No.: 09/626,621
Confirmation No.: 2487
Filed: 27 July 2000
Group Art Unit: 1734
Examiner: Sue A. Purvis

For: GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS

FACSIMILE TRANSMISSION TO THE PTO

Assistant Commissioner for Patents
Attn: Examiner Sue A. Purvis
Washington, D.C. 20231

FAX NUMBER: (703) 872-9310
Total Pages (including cover page): 22 pgs.
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The following papers are being transmitted to the Patent and Trademark Office by facsimile transmission: Amendment and Response (20 pgs total - including Appendix A (8 pgs)); and Petition for Extension of Time (1 pg).

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Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 13-4895.

09 APRIL 2003
Date

Mueting, Raasch & Gebhardt, P.A.
By: KWR
Kevin W. Raasch
Reg. No. 35,651
Direct Dial (612)305-1218

CERTIFICATE UNDER 37 C.F.R. §1.8: The undersigned hereby certifies that this Facsimile Cover Sheet and the paper(s), as described hereinabove, are being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office addressed to Assistant Commissioner for Patents, Washington, D.C. 20231, on this 9th day of April, 2003, at 11:25 a.m. (Central Time).

9 April 2003
Date

Signature: Rachel Coglianese Gates
Name: Rachel Coglianese Gates

If you do not receive all pages, please contact us at (612)305-1220 (ph) or (612)305-1228 (fax).

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PATENT
Docket No. 55679US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Conrad V. ANDERSON et al.)	Group Art Unit:	1734
Serial No.:	09/626,621)	Examiner:	Sue A. Purvis
Confirmation No.:	2487)		
Filed:	27 July 2000)		

For: GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS

FACSIMILE TRANSMISSION TO THE PTO

Assistant Commissioner for Patents
Attn: Examiner Sue A. Purvis
Washington, D.C. 20231

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9 April 2003
Date

Signature: Rachel Cagliardi Gibson
Name: Rachel Cagliardi Gibson

If you do not receive all pages, please contact us at (612)305-1220 (ph) or (612)305-1228 (fax).

PATENT
Docket No. 55679US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Conrad V. ANDERSON et al.)	Group Art Unit:	1734
Serial No.:	09/626,621)	Examiner:	Sue A. Purvis
Confirmation No.:	2487)		
Filed:	27 July 2000)		
For:	GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS		

PETITION FOR EXTENSION OF TIME

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

In accordance with the provisions of 37 C.F.R. §1.136(a), it is respectfully requested that a one-month extension of time be granted in which to respond to the outstanding Office Action mailed 10 December 2002, thereby extending the date on which the period of response is set to expire from 10 March 2003 to 10 April 2003.

Please charge Deposit Account No. 13-4895 in the amount of $110.00 to cover the required extension fee. Please charge any additional fees or credit any over-payment to PTO Deposit Account No. 13-4895.

CERTIFICATE UNDER 37 C.F.R. 1.8:

The undersigned hereby certifies that this paper is being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to Assistant Commissioner for Patents, Washington, D.C. 20231, on this 9th day of APRIL, 2003, at 11:25 a.m. (Central Time).

Signature: Rachel Coglandi-Graber
Name: Rachel Coglandi-Graber

09 APRIL 2003
Date

Respectfully submitted for

Conrad V. ANDERSON et al.

By
Mueting, Raasch & Gebhardt, P.A.
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PATENT
Docket No. 55679US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Conrad V. ANDERSON et al.)	Group Art Unit:	1734
Serial No.:	09/626,621)	Examiner:	Sue A. Purvis
Confirmation No.:	2487)		
Filed:	27 July 2000)		
For:	GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS		

AMENDMENT AND RESPONSE

Assistant Commissioner for Patents
Washington D.C. 20231

Dear Sir:

In response to the Office Action mailed 10 December 2002, please amend the above-identified application as follows:

In the Claims

Please cancel claims 26-33 without prejudice and consider new claims 34-47. The new claims are provided below. Per 37 C.F.R. §1.121, the new claims are also shown in Appendix A with notations to indicate changes made (for convenience, all pending claims are provided in Appendix A).

34. (NEW) A method of providing a composite image on a substrate, the method comprising:

applying a first film to the substrate while inducing a constant stretch to the first film, the first film comprising a first portion of the composite image;

providing first registration marks distributed along a length of the first film;

providing a second film to the substrate, the second film comprising second registration marks distributed along a length of the second film and a second portion of the composite image;

dispensing the second film under tension along the length of the second film;

detecting the first registration marks and the second registration marks while dispensing the second film;

varying the tension along the length of the second film based on the detection of the first registration marks and the second registration marks to register the first portion and the second portion of the composite image along the lengths of the first film and the second film; and

applying the second film to the substrate while varying the tension along the length of the second film, wherein the second portion of the composite image on the second film is aligned with the first portion of the composite image on the first film.

35. (NEW) A method according to claim 34, further comprising removing the second registration marks from the second film.

36. (NEW) A method according to claim 35, wherein removing the second registration marks from the second film comprises removing a portion of the second film.

37. (NEW) A method according to claim 35, wherein removing the second registration marks from the second film comprises cutting the second film before the second film is applied to the substrate.

38. (NEW) A method according to claim 34, wherein the first registration marks are invisible.

39. (NEW) A method according to claim 34, wherein the first registration marks are washable.

40. (NEW) A method according to claim 34, wherein the second registration marks are invisible.

41. (NEW) A method according to claim 34, wherein the second registration marks are washable.

42. (NEW) A method according to claim 34, further comprising:

detecting a distance between a leading edge and a trailing edge of one second registration mark of the plurality of second registration marks, wherein the distance between the leading edge and the trailing edge is indicative of a position across the width of the second film; and

steering the second film to register the second portion of the composite image to the first portion of the composite image in a direction transverse to the length of the second film.

43. (NEW) A method according to claim 34, further comprising:

detecting a distance between a leading edge and a trailing edge of the plurality of second registration marks, wherein the detected distance is indicative of a position across the width of the second film; and

steering the second film to register the second portion of the composite image to the first portion of the composite image in a direction transverse to the length of the second film.

44. (NEW) A method of providing a composite image on a substrate, the method comprising:

providing a first film on the substrate, the first film comprising a first portion of the composite image;

providing first registration marks distributed along a length of the first film;

providing a second film, the second film comprising second registration marks distributed along a length of the second film and a second portion of the composite image;

aligning the second portion of the composite image on the second film with the first portion of the composite image on the first film;

dispensing the second film under tension along the length of the second film;

detecting the first and second registration marks during the dispensing;

varying the tension along the length of the second film based on the detection of the first and second registration marks to register the first and second portions of the composite image along the lengths of the first and second films;

removing the second registration marks from the second film; and

applying the second film to the substrate after removing the second registration marks from the second film.

45. (NEW) A method according to claim 44, wherein removing the second registration marks from the second film comprises removing a portion of the second film.

46. (NEW) A method according to claim 44, wherein removing the second registration marks from the second film comprises cutting the second film.

47. (NEW) A method of providing a composite image on a substrate, the method comprising:

providing a first film on the substrate, the first film comprising a first portion of the composite image;

providing first registration marks distributed along a length of the first film;

providing a second film, the second film comprising second registration marks distributed along a length of the second film and a second portion of the composite image;

aligning the second portion of the composite image on the second film with the first portion of the composite image on the first film;

dispensing the second film under tension along the length of the second film;

detecting the first and second registration marks during the dispensing;

varying the tension along the length of the second film based on the detection of the first and second registration marks to register the first and second portions of the composite image along the lengths of the first and second films;

detecting a distance between a leading edge and a trailing edge of the plurality of second registration marks, wherein the detected distance is indicative of a position across the width of the second film;

steering the second film to register the second portion of the composite image to the first portion of the composite image in a direction transverse to the length of the second film; and

applying the second film to the substrate after the steering.

Remarks

The Office Action mailed 10 December 2002 has been received and reviewed. Claims 26-33 have been canceled and new claims 34-47 have been presented, leaving claims 1-25 and 34-47 pending. Reconsideration and withdrawal of the rejections are respectfully requested.

AFFIRMATION OF PROVISIONAL ELECTION

The Examiner issued a Restriction Requirement under 35 U.S.C. § 121 in the above-identified application, grouping the claims as follows: Group I, Claims 1-25 drawn to a method of providing a composite image on a substrate, and Group II, Claims 26-33 drawn to an image graphic kit. A provisional election to prosecute claims 1-25, Group I, was made in response to a telephone conversation between Applicants' Representative, Kevin W. Raasch, and Examiner Purvis on 3 December 2002. The provisional election to prosecute Group I is herein affirmed without traverse.

Non-elected claims 26-33 have been canceled without prejudice.

New Claims 34-47

New claims 34-47 are presented herein for consideration. Support for the claims can be found in the application as filed. For example, new independent claim 34 is supported at, e.g., p. 11, lines 7-12. New independent claim 44 is supported at, e.g., p. 13, lines 10-22. New independent claim 47 is supported at, e.g., p. 7, lines 3-27. Applicants respectfully submit that new claims 34-47 are patentable as presented.

The 35 U.S.C. §103 Rejections

Claims 1-6 and 9-23 were rejected under 35 U.S.C. §103(a) as being unpatentable over the admitted prior art in view of Krawczyk (U.S. Patent No. 5,252,166) and Jensen, Jr. (U.S. Patent No. 4,795,513).

Applicants respectfully traverse the rejection of independent claims 1 and 23 because the cited documents fail to support a proper *prima facie* case of obviousness as follows.

The Office Action relies upon the asserted admitted prior art in view of Krawczyk and Jensen in rejecting claims 1 and 23. The Office Action asserts that all the elements necessary to arrive at a *prima facie* case of obviousness against claims 1 and 23 are present in the combination of the asserted admitted prior art, Krawczyk, and Jensen.

The Office Action, however, fails to identify a proper suggestion or a motivation as to why one skilled in the art would have chosen to modify the asserted admitted prior art in view of both Krawczyk and Jensen that is supported by the cited references as discussed in Applicants' response dated March 21, 2002.

Briefly, Applicants noted that the cited documents failed to support the asserted suggestion or motivation to modify or combine the reference teachings because the proposed combination would change the principle operation of the prior art invention being modified. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teaching of the references are not sufficient to render the claims *prima facie* obvious (MPEP § 2143.01). Applicants were not, as asserted, attacking the references individually. Rather, Applicants pointed out that one skilled in the art would not have been motivated to look to the asserted combination of the asserted admitted prior art, Krawczyk and Jensen, as the combination of these documents would change the principle operation of the invention being modified as discussed in that response.

In the absence of a properly supported suggestion or motivation to combine all three reference teachings, the only way of arriving at the claimed subject matter is by picking and choosing individual elements from Krawczyk and Jensen based on Applicants' disclosure. Nothing in the cited reference teachings would direct or motivate one skilled in the art to combine these three reference teachings as asserted in the absence of Applicants' own disclosure.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of this rejection as applied to claims 1-6 and 9-23. The rejections and/or assertions regarding specific claims or groups of claims are also addressed in more detail below.

With respect to claim 2, the rejection is premised on the manual tensioning of the asserted admitted prior art, as modified by the teachings of Jensen. The Office Action fails, however, to

provide any reasoning as to why or how one of skill in the art would make the leap from a manual, panel-by-panel installation technique in which tension is sporadically applied in a variety of directions (e.g., across the width and length of each panel) to a method in which tension is applied only along the length of the film. In the absence of any identified suggestion or motivation to make that modification, it must be assumed that impermissible hindsight forms the basis for the rejection of claim 2. As such, a proper *prima facie* case of obviousness for claim 2 has not been established.

With respect to claim 6, Applicants note that none of the cited references teach removal of registration marks from a film. Any assertion that Krawczyk teaches removal of guidelines from a film is not supported by the reference itself. In that regard, Applicants note that the section cited in support of the rejection of claim 6 (i.e., Col. 16, lines 43-47) teaches removing marks from the tiles, not the film as recited in the claims.

With respect to claims 10 and 12, Applicants traverse the assertion that Krawczyk supports the rejection. The washable registration marks of Krawczyk are found on the tiles, not the plastic sheet itself.

With respect to claim 18, any assertion that Jensen teaches alignment of the width (transverse to the length) is misplaced because Jensen teaches application of a single web to the paper backing, thus eliminating any need to align two films across their width on a substrate. Furthermore, Applicants note that claim 18 recites detection of the distance between the leading edge and trailing edge of a registration mark and uses that measurement to align the films across their width. It may be helpful if the portion of the specification (p. 7, lines 3-27 and FIG. 1A) describing implementation of this concept is reviewed. As discussed above, Jensen provides no motivation or suggestion to employ registration marks to align a film in a direction transverse to its length.

With respect to claim 19 which recites "applying the first film to the substrate under tension," Applicants traverse the Office Action assertion that the asserted admitted prior art teaches that first film is stretched or pulled during application. The first film need not be registered during application to a substrate in the prior art method because it is the first film, i.e.,

there are no other films to which the first film must be registered. As a result, any assertion that the limitations of claim 19 are taught in the prior art is misplaced.

For the above reasons, Applicants respectfully submit that claims 1-6 and 9-23 are patentable over the cited references (the asserted admitted prior art, Krawczyk, and Jensen). Reconsideration and withdrawal of the rejection of these claims are, therefore, respectfully requested.

Although not explicitly stated, it appears that claims 7 and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over the admitted prior art in view of Krawczyk (U.S. Patent No. 5,252,166) and Jensen, Jr. (U.S. Patent No. 4,795,513), and further in view of Hensley et al. (U.S. Patent No. 6,354,984 B1).

Claims 7 and 24 recite "removing a portion of the second film." It is asserted in the Office Action that one would remove the second registration marks from the second film under a variety of circumstances. None of the assertions are, however, supported by a reference to the prior art. An attempt is made to rely on the teachings of Krawczyk in which the entire film is removed, with an assertion that because Krawczyk teaches removal of the entire plastic sheet, "it is the position of the examiner that to remove part of the sheet to remove the registration marks is within the purview of the artisan." *Office Action*, p. 6.

That modification would, however, would require a change in the principle operation of the prior art invention being modified. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teaching of the references are not sufficient to render the claims *prima facie* obvious (MPEP § 2143.01). The plastic sheets of Krawczyk are used only as carriers. To leave a portion of the plastic sheet attached to the tiles would change the nature of the Krawczyk invention. For example, the plastic sheet remaining on the tiles would prevent the proper application of grout to the spaces between the tiles. As a result, any reliance on the teachings of Krawczyk as support for the removal of a portion of the film is misplaced.

The discussion regarding claims 7 & 24 also refers to Hensley et al. There is, however, no discussion in the Office Action as to how one of ordinary skill in the art would apply the

principles taught in Hensley et al. to any of the other cited references to reach the present invention.

For the above reasons, Applicants respectfully submit that claims 7 & 24 are patentable over the cited references (the asserted admitted prior art, Krawczyk, Jensen, and Hensley et al.). Reconsideration and withdrawal of the rejection of these claims are, therefore, respectfully requested.

Claims 8 and 25 were rejected under 35 U.S.C. §103(a) as being unpatentable over the admitted prior art in view of Krawczyk (U.S. Patent No. 5,252,166) and Jensen, Jr. (U.S. Patent No. 4,795,513) as applied to claims 1, 5-7, 23, and 24,and further in view of Shannon (U.S. Patent No. 4,806,184) or Fritz (U.S. Patent No. 1,498,618). Mitchell (U.S. Patent No. 4,490,198) is also mentioned, but it is unclear as to whether it is relied on in support of the rejection. Clarification is requested.

The discussion regarding this rejection does not address a basic issue surrounding removal of the portion of the second film containing the registration marks "before the second film is applied to the substrate" as recited in claims 8 and 25. Removal of the registration marks before application of the second film raises issue as to how the registration can be accomplished (because there are no registration marks remaining on the film). In fact, removal of the registration marks would contradict the teachings of one of the primary references relied on in support of this rejection. Jensen, Jr. teaches that the registration marks 19 on its film are sensed after laminating the film to the paper backing to ensure proper registration. *See, e.g.,* Col. 9, lines 36-41. Removal of the registration marks before applying the film to the paper backing would frustrate that purpose and could result in mis-alignment of the film on the paper backing. The Office Action does not, however, address this issue and Applicants submit that one of ordinary skill in the art would not be motivated to remove registration marks before applying the second film in view of the teachings of Jensen, Jr. to the contrary. The newly cited references (Shannon and Fritz) do not address this basic issue with respect to claims 8 and 25.

For the above reasons, Applicants respectfully submit that claims 8 & 25 are patentable over the cited references (the asserted admitted prior art, Krawczyk, Jensen, and Hensley et al.).

Reconsideration and withdrawal of the rejection of these claims are, therefore, respectfully requested.

Claims 9 and 11 were rejected under 35 U.S.C. §103(a) as being unpatentable over the admitted prior art in view of Krawczyk (U.S. Patent No. 5,252,166) and Jensen, Jr. (U.S. Patent No. 4,795,513) as applied to claim 1,and further in view of Easter (U.S. Patent No. 4,620,888) or Roch (U.S. Patent No. 5,138,667).

Applicants note, however, that dependent claims 9 and 11 are patentable for at least the reasons presented with respect to independent claim 1. The addition of Easter or Roch et al. does not address the basic deficiencies of the rejection of claim 1. As a result, Applicants respectfully submit that claims 9 and 11 are patentable as presented. Reconsideration and withdrawal of this rejection are, therefore, respectfully requested.

Claims 21 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over the admitted prior art in view of Krawczyk (U.S. Patent No. 5,252,166) and Jensen, Jr. (U.S. Patent No. 4,795,513) as applied to claim 1, and further in view of Shannon (U.S. Patent No. 4,806,184).

Applicants note, however, that dependent claims 21 and 22 are patentable for at least the reasons presented with respect to independent claim 1. The addition of Shannon does not address the basic deficiencies of the rejection of claim 1. As a result, Applicants respectfully submit that claims 21 and 22 are patentable as presented. Reconsideration and withdrawal of this rejection are, therefore, respectfully requested.

Summary

It is respectfully submitted that pending claims 1-25 and 34-47 are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted for
Conrad V. ANDERSON et al.

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09 APRIL 2003
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CERTIFICATE UNDER 37 CFR §1.8:
The undersigned hereby certifies that this paper is being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to Assistant Commissioner for Patents, Washington, D.C. 20231, on this 9th day of April, 2003, at 11:25 a.m. (Central Time).

By: Rachel Coglianese-Graham
Name: Rachel Coglianese-Graham

APPENDIX A - SPECIFICATION/CLAIM AMENDMENTS
INCLUDING NOTATIONS TO INDICATE CHANGES MADE
Serial No.: 09/626,621
Docket No.: 55679US002

Amendments to the following are indicated by underlining what has been added and bracketing what has been deleted. Additionally, all amendments have been marked in bold typeface.

In the Claims

For convenience, all pending claims are shown below.

1. A method of providing a composite image on a substrate, the method comprising:

providing a first film on the substrate, the first film comprising a first portion of the composite image;

providing first registration marks distributed along a length of the first film;

providing a second film, the second film comprising second registration marks distributed along a length of the second film and a second portion of the composite image;

aligning the second portion of the composite image on the second film with the first portion of the composite image on the first film;

dispensing the second film under tension along the length of the second film;

detecting the first and second registration marks during the dispensing;

varying the tension along the length of the second film based on the detection of the first and second registration marks to register the first and second portions of the composite image along the lengths of the first and second films; and

applying the second film to the substrate.

2. A method according to claim 1, wherein the tension under which the second film is dispensed is continuously applied to the second film during the dispensing.

3. A method according to claim 1, wherein the first registration marks are located on the first film.

4. A method according to claim 1, wherein the first registration marks are visible before the second film is applied to the substrate, and further wherein applying the second film comprises locating the second film over the first registration marks.

5. A method according to claim 1, wherein the second registration marks are visible.

6. A method according to claim 5, further comprising removing at least some of the second registration marks from the second film.

7. A method according to claim 6, wherein the removing comprises removing a portion of the second film.

8. A method according to claim 7, wherein the removing occurs before the second film is applied to the substrate.

9. A method according to claim 1, wherein the first registration marks are invisible.

10. A method according to claim 1, wherein the first registration marks are washable.

11. A method according to claim 1, wherein the second registration marks are invisible.

12. A method according to claim 1, wherein the second registration marks are washable.

13. A method according to claim 1, wherein the second film is attached to a liner as dispensed.

14. A method according to claim 1, wherein the first and second registration marks are distributed in regular intervals.

15. A method according to claim 1, wherein the second film is dispensed from a roll.

16. A method according to claim 15, wherein the second film comprises an orientation indicator proximate an outside end.

17. A method according to claim 1, wherein the first and second films each comprise a width transverse to their length, and wherein the method further comprises registering the first and second portions of the composite image across the widths of the first and second films.

18. A method according to claim 17, wherein registering the first and second portions of the composite image across the widths of the first and second films comprises detecting a distance between a leading edge and a trailing edge of the second registration marks, wherein that distance is indicative of a position across the width of the second film.

19. A method according to claim 1, wherein providing the first film on the substrate comprises applying the first film to the substrate under tension.

20. A method according to claim 1, wherein the first film is applied to the substrate by dispensing the first film from a roll.

21. A method according to claim 1, wherein the composite image, first film, and second film each comprise a continuous length of at least about 5 meters.

22. A method according to claim 1, wherein the composite image, first film, and second film each comprise a continuous length of at least about 10 meters.

23. A method of providing a composite image on a substrate, the method comprising:

providing a first film on the substrate, the first film comprising a first portion of the composite image;

providing visible first registration marks distributed along a length of the first film;

providing a second film, the second film comprising visible second registration marks distributed along a length of the second film and a second portion of the composite image;

aligning the second portion of the composite image on the second film with the first portion of the composite image on the first film;

dispensing the second film under tension along the length of the second film;

detecting the first and second registration marks during the dispensing;

varying the tension along the length of the second film based on the detection of the first and second registration marks to register the first and second portions of the composite image along the lengths of the first and second films;

applying the second film to the substrate and the first film such that a portion of the second film is located over the first registration marks on the first film; and

removing the second registration marks from the second film.

24. A method according to claim 23, wherein the removing comprises removing a portion of the second film.

25. A method according to claim 24, wherein the removing occurs before the second film is applied to the substrate.

34. (NEW) A method of providing a composite image on a substrate, the method comprising:

applying a first film to the substrate while inducing a constant stretch to the first film, the first film comprising a first portion of the composite image;

providing first registration marks distributed along a length of the first film;

providing a second film to the substrate, the second film comprising second registration marks distributed along a length of the second film and a second portion of the composite image;

dispensing the second film under tension along the length of the second film;

detecting the first registration marks and the second registration marks while dispensing the second film;

varying the tension along the length of the second film based on the detection of the first registration marks and the second registration marks to register the first portion and the second portion of the composite image along the lengths of the first film and the second film; and

applying the second film to the substrate while varying the tension along the length of the second film, wherein the second portion of the composite image on the second film is aligned with the first portion of the composite image on the first film.

35. (NEW) A method according to claim 34, further comprising removing the second registration marks from the second film.

36. (NEW) A method according to claim 35, wherein removing the second registration marks from the second film comprises removing a portion of the second film.

37. (NEW) A method according to claim 35, wherein removing the second registration marks from the second film comprises cutting the second film before the second film is applied to the substrate.

38. (NEW) A method according to claim 34, wherein the first registration marks are invisible.

39. (NEW) A method according to claim 34, wherein the first registration marks are washable.

40. (NEW) A method according to claim 34, wherein the second registration marks are invisible.

41. (NEW) A method according to claim 34, wherein the second registration marks are washable.

42. (NEW) A method according to claim 34, further comprising:

detecting a distance between a leading edge and a trailing edge of one second registration mark of the plurality of second registration marks, wherein the distance between the leading edge and the trailing edge is indicative of a position across the width of the second film; and

steering the second film to register the second portion of the composite image to the first portion of the composite image in a direction transverse to the length of the second film.

43. (NEW) A method according to claim 34, further comprising:

detecting a distance between a leading edge and a trailing edge of the plurality of second registration marks, wherein the detected distance is indicative of a position across the width of the second film; and

steering the second film to register the second portion of the composite image to the first portion of the composite image in a direction transverse to the length of the second film.

44. (NEW) A method of providing a composite image on a substrate, the method comprising:

providing a first film on the substrate, the first film comprising a first portion of the composite image;

providing first registration marks distributed along a length of the first film;

providing a second film, the second film comprising second registration marks distributed along a length of the second film and a second portion of the composite image;

aligning the second portion of the composite image on the second film with the first portion of the composite image on the first film;

dispensing the second film under tension along the length of the second film;

detecting the first and second registration marks during the dispensing;

varying the tension along the length of the second film based on the detection of the first and second registration marks to register the first and second portions of the composite image along the lengths of the first and second films;

removing the second registration marks from the second film; and

applying the second film to the substrate after removing the second registration marks from the second film.

45. (NEW) A method according to claim 44, wherein removing the second registration marks from the second film comprises removing a portion of the second film.

46. (NEW) A method according to claim 44, wherein removing the second registration marks from the second film comprises cutting the second film.

47. (NEW) A method of providing a composite image on a substrate, the method comprising:

providing a first film on the substrate, the first film comprising a first portion of the composite image;

providing first registration marks distributed along a length of the first film;

providing a second film, the second film comprising second registration marks distributed along a length of the second film and a second portion of the composite image;

aligning the second portion of the composite image on the second film with the first portion of the composite image on the first film;

dispensing the second film under tension along the length of the second film;

detecting the first and second registration marks during the dispensing;

varying the tension along the length of the second film based on the detection of the first and second registration marks to register the first and second portions of the composite image along the lengths of the first and second films;

detecting a distance between a leading edge and a trailing edge of the plurality of second registration marks, wherein the detected distance is indicative of a position across the width of the second film; and

steering the second film to register the second portion of the composite image to the first portion of the composite image in a direction transverse to the length of the second film; and

applying the second film to the substrate after the steering.

APPENDIX VIII.

Serial No.: 09/626,621

Docket No.: 55679US0002

Final Office Action mailed from the U.S. Patent and Trademark Office on May 20, 2003.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/626,621	07/27/2000	Conrad V. Anderson	55679USA2A.002	2487

32692 7590 05/20/2003

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EXAMINER	
PURVIS, SUE A	

ART UNIT	PAPER NUMBER
1734	16

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/626,621	Applicant(s) ANDERSON ET AL.	
	Examiner Sue A. Purvis	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25 and 34-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25 and 34-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *14* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7, 10, 12-20, 23, and 24 rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk (US Patent No. 5,252,166) and Jensen, Jr. (US Patent No. 4,795,513).

Pages 1 and 2 of the instant specification teaches that previously a composite image was formed on the surface of a substrate manually by a skilled applicator who would pull or stretch each film slightly, thus varying its tension, as it was being applied to a maintain registration between the different panels used to form the composite image.

The admitted prior art does not teach using registration marks on the film and aligning those registration marks.

Krawczyk discloses a method of mounting multiple plastic sheets where the dimensions of the composite image are greater than the dimension of the plastic sheets. (Figures 17 and 18.) Each portion has guidelines thereon for which are used to help align the design properly.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include guides or registration marks in the method of the admitted prior

art, because while in some instances a skilled artisan only needs to look at the composite image in order to align it properly images on separate sheets, there are instances where guidelines or registration marks would be helpful in aligning images on separate sheets as taught by Krawczyk.

The admitted prior art in view of Krawczyk does not teach varying the tension on the second film along the length of the film to help ensure the marks are aligned properly.

Jensen, Jr. teaches forming a two-layered composite, 16, formed by the lamination of paper web, 14, with film web, 12. The paper layer, 14, has a perforated pattern, 24, and the plastic layer, 12, has a target area, 28, positioned in registration with the area, 24. A register control system is adapted to provide proper registration between the perforated pattern, 24, and the target area, 28. During operation the length of the film web is stretched or shrunk in order for it to be properly aligned with the paper web. (Col. 7, lines 12-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the tension on the length second web thus stretching or shrinking the space between the registration marks, because Jensen, Jr. teaches such steps are known ways of aligning webs.

Regarding claim 2, applicant sets out in claim 1, that the second film is dispensed "under tension along the length of the second film"; claim 2 states that this tension is "continuously applied to the second film during dispensing." As a film is dispensed "under tension", it seems to the examiner that tension must be applied continuously for the "length" of the film to be under tension as stated in claim 1. This is shown in Jensen and admitted in the applicant's art. When a film is dispensed or applied to a substrate, it must be so under a certain amount of tension,

otherwise the film would become loose and bunch when adhered to another sheet, thus resulting in an undesirable outcome. Applicants own art admits a manual tensioning means, Jensen also has a tensioning means as shown in Figure 1 of Jensen. The webs are fed around cylinders (not numbered) which helps to maintain tensioned web, then through nip (62) which engages the web and varies the rate of transfer, thus controlling the tension in the web.

Regarding claim 3, Krawczyk and Jensen disclose using reference marks for alignment purposes.

Regarding claims 4 and 5, reference marks must be visible in order to allow for proper alignment and aligning the reference marks of the two films is done in Krawczyk and Jensen.

Regarding claim 6, it is within the purview of the artisan to remove registration marks if the artisan desires fewer reference marks. It is also preferable to an artisan to have reference marks which are not seen or at least hardly noticed in the final product. In Krawczyk, one embodiment discusses how the guidelines or reference lines are easily removable because they are made with an erasable marker. (Col. 16, lines 43-47). The artisan has no desire for the marks created for the sole purpose of lining up sheets of material to be noticed after installation is complete, thus they would either make the references so small that they are barely noticeable or have the capability of removing mark, as shown in Krawczyk.

Regarding claims 7 and 24, when joining two films together the films are stretched so that the registration marks line up, as a result one film may have a bit of excess which would result in removing a portion of the film along with the registration marks thereon. There could be a number of reasons for such an occurrence, such as one film's supply is greater than the other or the supply appears to be the same at first but by stretching the film to line up the references

marks, the stretched film ends up having excess film. Another possibility is that the film is removed for the sole purpose of removing the reference marks, and this is an obvious alternative to washing off the reference marks and is also shown in Krawczyk. The pelican design in Figure 18 shows the design with the top sheets attached, the top sheets contain the guidelines. Once the adhesive is hardened, those top sheets are removed, thus the guidelines are removed. Thus, it is the position of the examiner that to remove part of the sheet to remove the registration marks is within the purview of the artisan. This is also shown in a Hensley et al. (US Patent No. 6,354,984 B1) where reference marks are preferably confined inside trim areas (79) such that the cutting out of a respective trim area simultaneously (i) creates a desired new element of the work piece, namely the leg cut-out, and (ii) removes the reference mark which was used to register the graphic to the pad. (See Figures 3, 4, and 6; Col. 16, lines 65-68.)

Regarding claims 10 and 12, invisible and washable registration marks are within the purview of one having ordinary skill in the art, because it would be preferable that the alignment marks not be intrusive to the composite image. Krawczyk discloses washable reference marks as mentioned above.

Regarding claim 13, Krawczyk shows the use of a liner and having a film attached to a liner, especially where one side of the film is adhesive is within the purview of one having ordinary skill in the art. The liner prevents the film from adhering to undesirable objects.

Regarding claim 14, it is within the interests of the artisan to distribute the reference marks in regular intervals. The other option being irregular intervals which would not serve the purpose the artisan had designed the registration marks for. This is introduced in the applicant's own admitted prior art as well as in Krawczyk and Jensen. (See Figure 2 of Jensen.)

Regarding claim 15, storing film on a roll is well known and conventional as seen in Jensen.

Regarding claim 16, the reference marks would act as orientation indicators since they enable the films to line up properly.

Regarding claim 17, a direct result of aligning the reference marks is the alignment of the portions of the composite image. The admitted prior art uses just the composite image for this alignment while Krawczyk and Jensen show that registration marks are another way of achieving the same result. Thus, the alignment of the registration marks of the admitted prior art in view of Krawczyk and Jensen would result in the composite image being aligned and registered across the width of the film.

Regarding claim 18, Jensen teaches control means that detects the distances between the reference marks in order to ensure the film is lined up properly. In determining the distance, as a result the "distance between a leading edge and a trailing edge" of the marks is found. Furthermore, since the web is in tension across its width, that distance is indicative of the position of the composite image across the width of the web, to be otherwise would mean that one side of the web is stretched while the other being relaxed, thus creating a skewed web.

Regarding claim 19, applicant's own admitted prior art states the skilled applicator will stretch or pull each film slightly as it is applied to the substrate in order to maintain registration between the different film panels.

Regarding claim 20, it is noted the film in Jensen, Jr. is fed in roll form, furthermore typically wallpaper or carpet, items which are applied to a static structure such as the instant invention, are typically stored in roll form.

3. Claims 8 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk and Jensen as applied to claims 1, 5-7, 23, and 24 above, and further in view of Shannon (US Patent No. 4,806,184) or Fritz (US Patent No. 1,498,618).

Admitted prior art in view of Krawczyk and Jensen does not show removing the film before it is applied to the substrate is a matter of choice and within the purview of one of ordinary skill in the art. The choices are before or after and the artisan would know when it is preferable to remove any excess. Mitchell (US Patent No. 4,490,198) shows the excess material being trimmed after it is applied to the substrate. In particular, however, Shannon discloses that the material is cut to the desired length before application to the substrate. Fritz, mentioned in Shannon, also teaches to cut the sheet before applying to a substrate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made when the film should be cut, because Shannon and Fritz both teach the film being trimmed before applying the film to the substrate. Thus to do so is within the purview of the artisan.

4. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk and Jensen as applied to claims 1 above, and further in view of Easter (US Patent No. 4,620,888) or Roch (US Patent No. 5,138,667).

The admitted prior art uses the visible images for alignment purposes, Krawczyk, as discussed above, uses marks which are washable, so that they do not later interfere with the images. The marks (19) in Jensen are visible to the photoelectric eye (52). (Col. 7, lines 7-10).

Registration marks, such as those in Jensen, are designed to be unnoticed to the ordinary observer. This is further shown in Easter and Roch where the marks are "invisible". See claim 3 of Roch and column 5, lines 60-68 of Easter.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use invisible marks for registration purpose of both first and second films, because as shown in Easter and Roch these types marks are known and used in the art. They are used to align materials without interfering with the overall appearance.

5. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk and Jensen as applied to claims 1 above ~~as applied to claim 1 above~~, and further in view of Shannon (US Patent No. 4,806,184).

A length of 5 meters and 10 meters is within the purview of one having ordinary skill in the art. The admitted prior art states 3 meters, however an artisan would know that the longer the length of the web, the less likely two webs will need to be used to cover a single surface and less chance for improper alignment. Shannon discloses a wallpaper applicator. Wallpaper is applied to rooms of varying sizes. As shown in Figure 14 of Shannon, the wallpaper is fed from a roller and placed side by side. This length of the material on the roll is not disclosed, but considering how the material is used in Shannon, it is the position of the examiner that the roll of material is more than 3 meters, because it is reused and an artisan would optimize the use of the device by making the roll as large as possible, thus minimizing the time it would take to refill the roll. Furthermore, the image on the wallpaper in Shannon is aligned as seen Figure 14.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the film as long as the skilled artisan needed for the purpose so

desired. For instance, Shannon's supply is greater than the surface covered and the material along with the image is aligned. Methods which utilize a longer film, although not for aligning as in the instant invention, are Cousineau (US Patent No. 6,024,821) and Siker (US Patent No. 4,049,479). These references are only pulled to show that using a continuous sheet with an image thereon is known in the art.

6. Claims 34-37, 39, and 41-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk, Shannon, and Jensen.

Pages 1 and 2 of the instant specification teaches that previously the composite image was formed on the substrate by manually adhering the films to the substrate using a pressure sensitive adhesive. An applicator starts at the top of each film and works toward the bottom. The films are laminated to the substrate using manual pressure applied with a squeegee-like device. A skilled applicator would pull or stretch each film slightly, thus varying its tension, as it was being applied to a maintain registration between the different panels used to form the composite image.

The admitted prior art does not teach using registration marks on the film and aligning those registration marks.

Krawczyk discloses a method of mounting multiple plastic sheets where the dimensions of the composite image are greater than the dimension of the plastic sheets. (Figures 17 and 18.) Each of the sheets with a portion of the composite image thereon also has guidelines which are detected and used to help align the composite image properly.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include guides or registration marks in the method of the admitted prior

art, because while in some instances a skilled artisan only needs to look at the composite image in order to align it properly images on separate sheets, there are instances where guidelines or registration marks would be helpful in aligning images on separate sheets as taught by Krawczyk.

The admitted prior art in view of Krawczyk does not discuss inducing a constant stretch to the first film or teach varying the tension on the second film along the length of the film to help ensure the registration marks of the first and second films are aligned properly.

Shannon discloses a handheld wallpaper applicator. The reference is of interest because it discusses applying a material (M) to a substrate and aligning that material (M) to a second material already on the substrate. (See Figure 14.) In applying the material, the applicator allows the user to applying a constant tension to the along the length of the material as it is applied to the substrate. (Col. 7, lines 16-56; Col. 8, lines 19-30.)

Jensen, Jr. is of interest because it teaches using a register control system adapted to provide proper registration between the two films. During operation the length of the film web is stretched or shrunk in order for it to be properly aligned with the paper web. (Col. 7, lines 12-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made based on the teaching of Shannon to induce a constant tension or stretch in the first film of the admitted prior art in view of Krawczyk, because in applying the first film to the substrate it is within the purview of the artisan to know that the film needs to be under tension to result in a smooth surface. Furthermore, both Jensen and Shannon teach that it is within the purview of the artisan to vary the tension on the length second web so the webs line

up properly. In Shannon, the images of the second substrate need to line up with the images of the first substrate. In Jensen, two webs are aligned. While this aligning is not done on the substrate, it is within the purview of the artisan to apply the teaching in Jensen that shows stretching or shrinking the space between the registration marks to align the webs.

Regarding claim 35, it is within the purview of the artisan to remove registration marks if the artisan desires fewer reference marks. It is also preferable to an artisan to have reference marks which are not seen or at least hardly noticed in the final product. In Krawczyk, one embodiment discusses how the guidelines or reference lines are easily removable because they are made with an erasable marker. (Col. 16, lines 43-47). The artisan has no desire for the marks created for the sole purpose of lining up sheets of material to be noticed after installation is complete, thus they would either make the references so small that they are barely noticeable or have the capability of removing mark, as shown in Krawczyk.

Regarding claim 36, when joining two films together the films are stretched so that the registration marks line up, as a result one film may have a bit of excess which would result in removing a portion of the film along with the registration marks thereon. There could be a number of reasons for such an occurrence, such as one film's supply is greater than the other or the supply appears to be the same at first but by stretching the film to line up the references marks, the stretched film ends up having excess film. Another possibility is that the film is removed for the sole purpose of removing the reference marks, and this is an obvious alternative to washing off the reference marks and is also shown in Krawczyk. The pelican design in Figure 18 shows the design with the top sheets attached, the top sheets contain the guidelines. Once the adhesive is hardened, those top sheets are removed, thus the guidelines are removed. Thus, it is

the position of the examiner that to remove part of the sheet to remove the registration marks is within the purview of the artisan.

Regarding claims 37 and 44-46, Shannon discloses that the material (M) is cut to the required length sufficient to cover the surface before the material is applied to the substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to cut the material in the admitted prior art to a length sufficient to cover the surface before the film is applied to the substrate as taught in Shannon, because when a material is supplied in a length excess to what is needed by the artisan it is within the purview of the artisan to cut it before applying it to the substrate. In the alternative, the artisan can apply the film to the substrate, cut the excess film off at the end, and not apply that portion to the substrate. In the discussion of the prior art, Shannon mentions a device which includes a cutter thereon. (Col. 1, lines 57-66.)

Regarding claims 39 and 41, washable registration marks are within the purview of one having ordinary skill in the art, because it would be preferable that the alignment marks not be intrusive to the composite image. Krawczyk discloses washable reference marks as mentioned above.

Regarding claims 42, 43, and 47, Jensen teaches control means that detects the distances between the reference marks in order to ensure the film is lined up properly. In bringing this teaching into the admitted prior art, the same would be true. Furthermore, as films are laid onto a substrate, they are laid down smoothly across the width of the film. To do so otherwise would result in a film being laid down improperly and likely wrinkled or skewed. On page 7 of the specification, it is disclosed that the film is steer based of the measurements of the distance

between the leading and trailing edges of the registration marks, however, applicant has not claimed that here. The applicant states to steer "the second film to register...in a direction transverse to the length...". When the film is laid across a substrate, it is steered in a direction transverse to its length as required by these claims.

7. Claims 38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Krawczyk, Shannon, and Jensen as applied to claim 34 above, and further in view of Easter (US Patent No. 4,620,888) or Roch (US Patent No. 5,138,667).

The admitted prior art uses the visible images for alignment purposes, Krawczyk, as discussed above, uses marks which are washable, so that they do not later interfere with the images. The marks (19) in Jensen are visible to the photoelectric eye (52). (Col. 7, lines 7-10).

Registration marks, such as those in Jensen, are designed to be unnoticed to the ordinary observer. This is further shown in Easter and Roch where the marks are "invisible". See claim 3 of Roch and column 5, lines 60-68 of Easter.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use invisible marks for registration purpose of both first and second films, because as shown in Easter and Roch these types marks are known and used in the art. They are used to align materials without interfering with the overall appearance of material.

Response to Arguments

8. Examiner disagrees that the proposed combination would change the principle operation of the prior art being modified. The applicant's admitted prior art discloses that previously the composite image was formed on the substrate by manually adhering the films to the substrate

using a pressure sensitive adhesive whereby a skilled applicator would pull or stretch each film slightly as it was being applied to a maintain registration between the different panels used to form the composite image. It is within the purview of the artisan to look to the secondary reference, Krawczyk, to see that registration marks can be used to align the images on material. It does not change the principle operation of the admitted prior to add registration marks to the films which are applied to the substrate. Instead of a user manually aligning the composite image, the user will manually align the registration marks and as a result, the composite image will be aligned. Furthermore, the tertiary reference, Jensen, teaches that aligning registration marks between webs can be automated. This also does not change the principle of operation of the prior art being modified. In applying the teachings of Jensen to the admitted prior art in view of Krawczyk, the reference may be bodily incorporated into the structure of the primary reference, it is the teaching of detecting the various registration marks on the two webs and aligning those marks that the examiner is relying on in the rejection.

9. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

10. Regarding applicant's arguments with respect to claim 2, the applicant asserts the admitted prior art states that tension is sporadically applied in a variety of directions, however,

this is not consistent with the applicant's disclosure. The admitted prior art states the applicator uses a squeegee-like device to apply the film, stretching and pulling the film slightly to maintain registration between the different panels to form composite images. No mention is made that the films are pulled in a variety of directions. When placing a film on a surface and aligning it along the length of another film, the length is varied in order to achieve that alignment. Assuring the film is pressed smoothly onto the surface properly aligns the width of the film. (See Shannon.)

11. Regarding applicant's arguments with respect to claims 6, 10, and 12, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Here, the applicant argues that Krawczyk teaches removing registration marks from a tile, not a film as recited in the claims. It is the general teaching in Krawczyk of removing the registration marks that the examiner has relied in rejecting this claim. It is does not matter that Krawczyk removes the marks from tiles, it is within the purview of the artisan to apply that teaching to the admitted prior art, which deals with film. The same is true regarding the washable marks in Krawczyk.

12. Regarding applicant's arguments with respect to claim 18, Jensen teaches control means that detects the distances between the reference marks in order to ensure the film is lined up properly. In bringing this teaching into the admitted prior art, the same would be true. Furthermore, as films are laid onto a substrate, they are laid down smoothly across the width of the film. To do so otherwise would result in a film being laid down improperly and likely

wrinkled or skewed. On page 7 of the specification, it is disclosed that the film is steer based of the measurements of the distance between the leading and trailing edges of the registration marks, however, applicant has not claimed that in this claim. Here, the applicant merely states that the "distance is indicative of a position across the width of the film."

13. Regarding applicant's arguments with respect to claim 19, the admitted prior art teaches the films are laminated to the substrate using manual pressure applied with a squeegee-like device. A skilled applicator would pull or stretch each film slightly, thus varying its tension, as it was being applied to a maintain registration between the different panels used to form the composite image. The first film has to be under tension in order to be applied to the substrate properly. This is also shown in Shannon. It is unlikely an artisan would want a film to be loosely applied to the substrate. This would result in the film not being aligned properly with subsequent films which are applied under tension.

14. Regarding applicant's arguments with respect to claims 7 and 24, when joining two films together the films are stretched so that the registration marks line up, as a result one film may have a bit of excess which would result in the user removing the excess portion of the film along with the registration marks thereon. There could be a number of reasons for such an occurrence, such as one film's supply is greater than the other or the supply appears to be the same at first but by stretching the film to line up the references marks, the stretched film ends up having excess film. In addition, Hensley was not relied on in rejecting these claims, but merely as a teaching reference to show removing a portion of the second film is within the purview of the artisan.

15. Regarding applicant's arguments with respect to claims 8 and 25, these claims do not require that all the registration marks be removed from the film. In fact, claim 8 depends from

claim 7 which depends from claim 6 which requires only some of the registration marks be removed from the film. From the claims, the examiner has interpreted that only some of the registration marks are removed and thus registration between the two films can still be accomplished. Furthermore, Jensen, as tertiary reference, is not contradicted by this step. It is the combination of references that the examiner has relied on in rejecting these claims. As for Shannon and Fritz, both of these references teach to cut a web to a desired length before applying it to a substrate. If that web were to contain reference marks, then reference marks are removed as required by claims 8 and 25. Mitchell shows a general well-known teaching as discussed above and was not relied for the rejection.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue A. Purvis whose telephone number is 703-305-0507. The examiner can normally be reached on Monday through Thursday 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rick Crispino can be reached on 703-308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-1495.

Sue A. Purvis
Examiner
Art Unit 1734

sp
May 17, 2003

RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

INFORMATION DISCLOSURE STATEMENT	Atty. Docket N .: 55679US002	Serial No.: 09/626,621
	Applicant(s): Anderson et al.	Confirmation No.: 2487
	Filing Date: July 27, 2000	Group: 1734

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
SP		4,867,816	09/19/89	Suiter	—	—	
SP		4,944,514	07/31/90	Suiter	—	—	

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
		NONE						

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

Examiner Initial		Document Description
		NONE

EXAMINER	Date Considered
	5/16/03

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

APPENDIX IX.

Serial No.: 09/626,621

Docket No.: 55679US002

Notice of Appeal to the Board of Patent Appeals and Interferences filed August 20, 2003.

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Auto-Reply Facsimile Transmission

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08/20/03 WED 12:42 FAX 1 612 305 1228 MUETING & RAASCH 001

PATENT
Docket No. 55679US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Conrad V. ANDERSON et al.
Serial No.: 09/626,621
Confirmation No.: 2487
Filed: 27 July 2000
For: GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS

Group Art Unit: 1734
Examiner: Sue A. Purvis

FACSIMILE TRANSMISSION TO THE PTO

Assistant Commissioner for Patents
Attn: Examiner Sue A. Purvis
P.O. Box 1450
Alexandria, VA 22313-1450

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Mueting, Raasch & Gebhardt, P.A.

20 August 2003
Date

By: Kevin W. Raasch
Reg. No. 35,651
Direct Dial (612)305-1218

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20 August 2003
Date

Signature: P. Caufield-Cook
Name: Paula Caufield-Cook

If you do not receive all pages, please contact us at (612)305-1220 (ph) or (612)305-1228 (fax).

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PATENT
Docket No. 55679US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Conrad V. ANDERSON et al.)	Group Art Unit:	1734
Serial No.:	09/626,621)	Examiner:	Sue A. Purvis
Confirmation No.:	2487)		
Filed:	27 July 2000)		

For: GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS

FACSIMILE TRANSMISSION TO THE PTO

Assistant Commissioner for Patents
Attn: Examiner Sue A. Purvis
P.O. Box 1450
Alexandria, VA 22313-1450

FAX NUMBER: (703) 872-9311
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20 August 2003
Date

Mueting, Raasch & Gebhardt, P.A.
By: KWR
Kevin W. Raasch
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20 August 2003
Date

Signature: R. Caglioni-Gibson
Name: Rachel Caglioni-Gibson

If you do not receive all pages, please contact us at (612)305-1220 (ph) or (612)305-1228 (fax).

PATENT
Docket No. 55679US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Conrad V. ANDERSON et al.)	Group Art Unit:	1734
Serial No.:	09/626,621)	Examiner:	Sue A. Purvis
Confirmation No.:	2487)		
Filed:	27 July 2000)		
For:	GRAPHIC IMAGE FILM REGISTRATION SYSTEMS AND METHODS		

NOTICE OF APPEAL
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

Assistant Commissioner for Patents
Mail Stop AF
P.O. Box 1450
Alexandria, VA 22313-1450
Sir:

Applicants hereby appeal to the Board of Appeals from the decision dated 20 May 2003, of the Primary Examiner rejecting claims 1-25 and 34-47 of the above-identified application under 37 C.F.R. §§1.113 and 1.191. Please charge Deposit Account No. 13-4895 in the amount of $320.00 to cover the Notice of Appeal fee.

Please charge any additional fees or credit any over-payment to PTO Deposit Account No. 13-4895.

CERTIFICATE UNDER 37 C.F.R. 1.8:

The undersigned hereby certifies that this paper is being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to Assistant Commissioner for Patents, Mail Stop AF, P.O. Box 1450, Alexandria, VA 22313-1450, on this 20th day of August, 2003, at 12:42 p.m. (Central Time).

Signature: R. Gabriel Gaglianti-Graham
Name: Rachel Gaglianti-Graham

20 August 2003
Date

KWR/rgg

Respectfully submitted for

Conrad V. ANDERSON et al.

By
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APPENDIX X.

Serial No.: 09/626,621

Docket No.: 55679US002

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1. Krawczyk (U.S. Patent No. 5,252,166).

2. Jensen, Jr. (U.S. Patent No. 4,795,513).

3. Shannon (U.S. Patent No. 4,806,184).

4. Fritz (U.S. Patent No. 1,498,618).

5. Easter et al. (U.S. Patent No. 4,620,888).

6. Roch et al. (U.S. Patent No. 5,138,667).

7. Hensley et al. (U.S. Patent No. 6,354,984 B1)

APPENDIX XI.

Serial No.: 09/626,621

Docket No.: 55679US002

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1. M.P.E.P. § 2141.01.

2. In re Wesslau, 353 F.2d 238, 147 U.S.P.Q. 391 (CCPA 1965).

3. Bausch & Lomb, Inc. v. Barnes-Hind/Hycrocurve, Inc., 796 F.2d 443, 230 U.S.P.Q. 416 (Fed. Cir. 1986) cert. denied, 484 U.S. 823 (1987), on remand, 10 U.S.P.Q.2d 1929 (N.D. Calif. 1989).

4. In re Gorman, 933 F2d 982,18 U.S.P.Q.2d 1885 (Fed. Cir. 1991).

5. In re Dow Chem., 837 F.2d 469, 5 U.S.P.Q.2d 1529 (Fed. Cir. 1988).

6. In re Robertson, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999).

The Supreme Court reaffirmed and relied upon the *Graham* three pronged test in its consideration and determination of obviousness in the fact situations presented in *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 189 USPQ 449, *reh'g denied*, 426 U.S. 955 (1976) and *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 163 USPQ 673 (1969). In each case, the Court discussed whether the claimed combinations produced a "new or different function" and a "synergistic result," but it clearly decided whether the claimed inventions were nonobviousness on the basis of the three-way test in *Graham*. Nowhere in its decisions in these cases does the Court state that the "new or different function" and "synergistic result" tests supersede a finding of nonobvious or obviousness under the *Graham* test.

Accordingly, examiners should apply the test for patentability under 35 U.S.C. 103 set forth in *Graham*. See below for a detailed discussion of each of the *Graham* factual inquiries. It should be noted that the Supreme Court's application of the *Graham* test to the fact circumstances in *Ag Pro* was somewhat stringent, as it was in *Black Rock*. Note *Republic Industries, Inc. v. Schlage Lock Co.*, 592 F.2d 963, 200 USPQ 769 (7th Cir. 1979). The Court of Appeals for the Federal Circuit stated in *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1540, 218 USPQ 871, 880 (Fed. Cir. 1983) that

> A requirement for "synergism" or a "synergistic effect" is nowhere found in the statute, 35 U.S.C. When present, for example in a chemical case, synergism may point toward nonobviousness, but its absence has no place in evaluating the evidence on obviousness. The more objective findings suggested in *Graham*, supra, are drawn from the language of the statute and are fully adequate guides for evaluating the evidence relating to compliance with 35 U.S.C. § 103. *Bowser Inc. v. United States*, 388 F. 2d 346, 156 USPQ 406 (Ct. Cl. 1967).

BASIC CONSIDERATIONS WHICH APPLY TO OBVIOUSNESS REJECTIONS

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

(A) The claimed invention must be considered as a whole;

(B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;

(C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

(D) Reasonable expectation of success is the standard with which obviousness is determined.

Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

OBJECTIVE EVIDENCE MUST BE CONSIDERED

Objective evidence or secondary considerations such as unexpected results, commercial success, long-felt need, failure of others, copying by others, licensing, and skepticism of experts are relevant to the issue of obviousness and must be considered in every case in which they are present. When evidence of any of these secondary considerations is submitted, the examiner must evaluate the evidence. The weight to be accorded to the evidence depends on the individual factual circumstances of each case. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ 81 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987). The ultimate determination on patentability is made on the entire record. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

See MPEP § 716- § 716.06 for a discussion of objective evidence and its role in the final legal determination of whether a claimed invention would have been obvious under 35 U.S.C. 103.

2141.01 Scope and Content of the Prior Art

I. PRIOR ART AVAILABLE UNDER 35 U.S.C. 102 IS AVAILABLE UNDER 35 U.S.C. 103

"Before answering *Graham's* 'content' inquiry, it must be known whether a patent or publication is in the prior art under 35 U.S.C. § 102." *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568, 1 USPQ2d 1593, 1597 (Fed. Cir.), *cert. denied*, 481 U.S. 1052 (1987). Subject matter that is prior art under 35 U.S.C. 102 can be used to support a rejection under section 103. *Ex parte Andresen*, 212 USPQ 100, 102 (Bd. Pat. App. & Inter. 1981) ("it appears to us that the commentator [of 35 U.S.C.A.] and the [con-

gressional] committee viewed section 103 as including all of the various bars to a patent as set forth in section 102.").

A 35 U.S.C. 103 rejection is based on 35 U.S.C. 102(a), 102(b), 102(e), etc. depending on the type of prior art reference used and its publication or issue date. For instance, an obviousness rejection over a U.S. patent which was issued more than 1 year before the filing date of the application is said to be a statutory bar just as if it anticipated the claims under 35 U.S.C. 102(b). Analogously, an obviousness rejection based on a publication which would be applied under 102(a) if it anticipated the claims can be overcome by swearing behind the publication date of the reference by filing an affidavit or declaration under 37 CFR 1.131.

For an overview of what constitutes prior art under 35 U.S.C. 102, see MPEP § 901 - § 901.06(d) and § 2121 - § 2129.

II. SUBSTANTIVE CONTENT OF THE PRIOR ART

See MPEP § 2121 - § 2129 for case law relating to the substantive content of the prior art (e.g., availability of inoperative devices, extent to which prior art must be enabling, broad disclosure rather than preferred embodiments, admissions, etc.).

III. CONTENT OF THE PRIOR ART IS DETERMINED AT THE TIME THE INVENTION WAS MADE TO AVOID HINDSIGHT

The requirement "at the time the invention was made" is to avoid impermissible hindsight. See MPEP § 2145, paragraph X.A. for a discussion of rebutting applicants' arguments that a rejection is based on hindsight.

"It is difficult but necessary that the decisionmaker forget what he or she has been taught . . . about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

IV. 35 U.S.C. 103(c) — EVIDENCE REQUIRED TO SHOW CONDITIONS OF 35 U.S.C. 103 APPLY

An applicant who wants to avail himself or herself of the benefits of 35 U.S.C. 103(c) has the burden of establishing that subject matter which qualifies as prior art under subsection (e), (f) or (g) of section 102 and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. *Ex parte Yoshino*, 227 USPQ 52 (Bd. Pat. App. & Inter. 1985). Note that for applications filed prior to November 29, 1999, 35 U.S.C. 103(c) is limited on its face to subject matter developed by another person which qualifies as prior art only under subsection (f) or (g) of section 102. See MPEP § 706.02(l)(1). See also *In re Bartfeld*, 925 F.2d 1450, 1453-54, 17 USPQ2d 1885, 1888 (Fed. Cir. 1991) (Applicant attempted to overcome a 35 U.S.C. 102(e)/103 rejection with a terminal disclaimer by alleging that the public policy intent of 35 U.S.C 103(c) was to prohibit the use of "secret" prior art in obviousness determinations. The court rejected this argument, holding "We may not disregard the unambiguous exclusion of § 102(e) from the statute's purview.").

See MPEP § 706.02(l)(2) for the requirements which must be met to establish common ownership.

2141.01(a) Analogous and Nonanalogous Art

TO RELY ON A REFERENCE UNDER 35 U.S.C. 103, IT MUST BE ANALOGOUS PRIOR ART

The examiner must determine what is "analogous prior art" for the purpose of analyzing the obviousness of the subject matter at issue. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) ("A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's

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In re WESSLAU

(CCPA)
147 USPQ 391
Decided Nov. 26, 1965
Appl. No. 7447
U.S. Court of Customs and Patent Appeals

Headnotes

PATENTS

1. Patentability--Composition of matter (§ 51.30)

Claims to process of polymerizing ethylene are not rejected on theory that applicant's catalyst system can be met merely by substitution of groups from two prior patents on the corresponding components of a third prior system since no one of the references suggests such a substitution, quite apart from the result which would be obtained thereby; such piecemeal reconstruction of prior art patents in light of applicant's disclosure is contrary to 35 U.S.C. 103.

2. Patentability--Invention--In general (§ 51.501)

Question in cases within ambit of 35 U.S.C. 103 is whether subject matter as a whole would have been obvious to one of ordinary skill in the art following teachings of prior art at time invention was made; it is impermissible within framework of section 103 to choose from any one reference only so much of it as will support a given position, to exclusion of other parts necessary to full appreciation of what reference fairly suggests to one of ordinary skill in the art.

Particular patents--Polyethylene

Wesslau, Process for the Production of Polyethylene with Narrow Distribution of the Molecular Weight, claims 35 to 43 of application allowed.

Case History and Disposition:

Appeal from Board of Appeals of the Patent Office.

Application for patent of Hermann Wesslau, Serial No. 753,872, filed Aug. 8, 1959; Patent Office Group 140. From decision rejecting claims 35 to 43, applicant appeals. Reversed.

Attorneys:

ARNOLD SPRUNG, New York, N.Y., and ARNOLD B. CHRISTEN, Washington, D. C., for appellant.

CLARENCE W. MOORE (FRED W. SHERLING of counsel) for Commissioner of Patents.

Judge:

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Associate Judges.

Opinion Text

Opinion By:

ALMOND, Judge.

This appeal is from the decision of the Board of Appeals affirming the rejection of claims 35-43 [1] in appellant's application [2] entitled "Process for the Production of Polyethylene With Narnow Distribution of the Molecular Weight." No claims have been allowed.

The invention relates to a process of polymerizing ethylene utilizing a Ziegler-type catalyst system to produce solid polyethylene. Both appellant and the Patent Office have treated the appealed process claims as standing or falling together, and we will do the same. Claim 35, from which the remaining claims depend, is illustrative and reads as follows:

> 35. In the process of polymerizing ethylene to a solid polymer having a high molecular weight and a narrow molecular weight distribution range, the improvement which comprises polymerizing ethylene in the presence of a polymerization catalyst con

> sisting essentially of a mixture of titanium trichloride, at least one compound of tetravalent titanium Ti(R) 4and at least one organic aluminum compound soluble in a liquid hydrocarbon and having the general formula R'Al(R) 2in which R' is alkyl and R is selected from the group consisting of halogen, alkoxy and aroxy radicals, wherein between said tetravalent titanium compound and said organic aluminum compound there is present in said mixture at least one halogen atom and at least one member selected from the group consisting of alkoxy and aroxy radicals.

According to appellant's disclosure, polyethylene of high molecular weight may be produced by what has become known in the art as the Ziegler polymerization process. Analysis of the polyethylene so produced has revealed that although the *average* molecular weight of the polymer is high, a fairly large proportion of the individual polymer chains have a relatively low molecular weight. These low molecular weight fractions are particularly unfavorable for such properties as impact bending strength, rubbing, and fatigue. Appellant has discovered that the proportion of the lower molecular weight chains can be reduced, thereby narrowing the

molecular weight distribution, by employing a three-component catalyst system in which either the $Ti(R)_4$ or $R'Al(R)_2$ contains an alkoxide or aroxide moiety.

The references relied on are:

Anderson 2,862,917 December 2, 1958
Muehlbauer 2,905,661 September 22, 1959
Ruhrchemie (Belgian) 553,694 June 24, 1957

The Ruhrchemie patent relates to a process for producing polyethylene of a desired molecular weight employing certain specified catalyst systems. The pertinent portion of the patent specification reads as follows:

> * * * when high molecular weight [polyethylene] products are to be obtained * * *, the employed mixtures consist of aluminum alkyl compounds and/or halides of aluminum alkyl with quantities of titanium trichloride of at least 0.01 mole * * * and quantities of titanium tetrachloride lower than 0.01 mole * * *; on the other hand, when materials having low molecular weight are to be obtained the employed mixtures consist of aluminum alkyl and/or halide of aluminum alkyl with more than 0.1 mole * * * of titanium tetrachloride per mole of aluminum alkyl and/or halide of aluminum alkyl, and with titanium trichloride at the rate of at least 0.1 mole, preferably 0.3-1 mole approximately per mole of aluminum alkyl and/or halide of aluminum alkyl.

The Anderson patent relates to a process of polymerizing ethylene whereby control over the weight average molecular weight of the polymer and the *molecular weight distribution* of the polymer is achieved by adhering to process conditions which insure the solubility of the ethylene during polymerization. The process employs coordination catalysts of titanium:

> * * * obtained by admixing a trivalent or tetravalent titanium compound of the class consisting of titanium salts and titanium alkoxides with a compound having at least one metal-to-hydrocarbon bond, such as metal alkyls, suitable compounds being lithium aluminum alkyls, aluminum alkyls, Grignard reagents, alkyl aluminum halides, tin alkyls, etc. * * *

Anderson further states:

> * * * the steady state compliance [an indicia of molecular weight distribution] will vary from 3 to 7 when the critical conditions of the process of the present invention are maintained and will rise to a range of 12 to 28 when the polymerization is carried out at conditions other than required by the process of the present invention. * * *

Muehlbauer relates to a process for producing high molecular weight polyolefins employing a two-component catalyst system consisting of certain metal halides and a compound of the formula $XAlR(OR')$, where X is halogen, and R and R' are the same or different alkyl, cycloalkyl, or aryl radicals. Titanium trichloride and titanium tetrachloride are specifically disclosed as suitable metal halides.

The sole issue in this case is obviousness under 35 U.S.C. 103.

Appellant's principal contention is that:

> * * * since none of the reference[s] either singly or in combination teach a control of the molecular weight distribution range by specific selection of catalyst components, or even that the nature or composition of the catalyst could have an effect on this molecular weight distribution range, the subject matter of the invention as a whole could not possibly be obvious from the references. * * *

We agree. Appellant's specification contains ten examples in which various three-component catalyst systems were utilized in the polymerization of ethylene. The systems set forth in three of these examples consisted of (1) titanium trichloride, (2) titanium tetrachloride, and (3) diethyl aluminum monochloride is various molar ratios.

These fall within the catalyst systems disclosed by Ruhrchemie. The U value, which according to appellant's specification is a measure of the molecular weight distribution, ranges from 6.3 to 12.8 for such catalysts. In the remaining seven examples, catalyst systems covered only by the appealed claims were employed, with the nonuniformity value U [3] for the resultant polyethylene ranging from 2.6 to 3.9 We believe this to be a convincing demonstration that the alkoxide or aroxide moiety, when present in the catalyst systems of the appealed claims, possesses the property of conferring a significant degree of control over the ultimate molecular weight distribution of polyethylene. This property is neither taught nor suggested by the prior art.

The reasoning of the examiner and the board appears to be as follows: Ruhrchemie discloses a titanium trichloride - titanium tetrachloride - mono - ethyl aluminum dichloride system. This differs from appellant's system only in the latter's use of an alkoxide or aroxide group on either the tetravalent titanium or aluminum component or both. Since Anderson shows a tetravalent titanium compound containing an alkoxide group and Muehlbauer shows an aluminum compound containing an alkoxide group, appellant's catalyst system can be met merely by substitution of such alkoxide groups on the corresponding components of the Ruhrchemie system.

[1] The fallacy of this reasoning is that no one of the references *suggests* such a substitution, quite apart from the result which would be obtained thereby. Such piecemeal reconstruction of the prior art patents in the light of appellant's disclosure is contrary to the requirements of 35 U.S.C. 103. In re Rothermel, 47 CCPA 866, 276 F.2d 393, 125 USPQ 328 .

[2] The ever present question in cases within the ambit of 35 U.S.C. 103 is whether the subject matter as a whole would have been obvious to one of ordinary skill in the art following the *teachings* of the prior art at the time the invention was made. It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The Anderson patent is the only reference before us which recognizes the desirability of producing polyethylene with a narrow molecular weight distribution range. Were one to follow the teachings of that patent in its entirety, he would be led to believe that control over the molecular weight distribution of polyethylene was gained independently of the catalyst system, a belief untenable in light of appellant's disclosure.

Both the board and the solicitor apparently assert the position that it is incumbent upon appellant to show that his results are outstanding as compared with the results accomplished by Anderson and Muehlbauer. If this is construed as requiring appellant to show unexpected results accruing from his claimed process, we think he has met the requirement. We perceive no teaching in the prior art of record suggesting that an alkoxide or aroxide moiety in a Ziegler-type catalytic system would produce the results obtained by appellant's process.

The decision of the board is *reversed.*

Footnotes

Footnote 1. Appellant withdrew the appeal with respect to the only product claim 44, which was drawn to a polyethylene having a narrow molecular weight distribution characterized by a nonuniformity value U of magnitude between 2 and 4.

Footnote 2. Serial No. 753,872, filed August 8, 1958.

Footnote 3. Appellant's specification contains the following description of the nonuniformity value U:

> * * * the so-called non-uniformity is used for characterising the range of distribution of the molecular weights. According to G. V. Schulz in H. A. Stuart's Die Physik der Hochpolymeren, 2nd vol., the macromolecule in solutions is given on page 754 as:
> *Graphic material consisting of a complex mathematical formula set at this point is not available. See text in hard copy or call BNA PLUS at 1-800-452-7773 or 202-452-4323.*

'M $_w$ and 'M $_n$ can be calculated from the molecular weight distribution by current methods (G. V. Schulz and M. Marx: Makromolekulare Chemie XIV (1954), pages 53-64).

- End of Case -

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Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.

(CA FC)
230 USPQ 416
Decided July 14, 1986
No. 85-2578
U.S. Court of Appeals Federal Circuit

Headnotes

PATENTS

1. Patentability -- Invention -- In general (§ 51.501)

Federal district court erred by holding laser-marked contact lens patent to be invalid, in view of court's failure to grant patent its statutory presumption of validity, its over-reliance upon inventor's alleged opinion as to non-obviousness, its misuse of such opinion as substitute for determining level of skill of hypothetical person of ordinary skill, its use of improper hindsight analysis, its failure to consider prior art reference in its entirety, and its erroneous reliance upon irrelevant experiments.

2. Infringement -- Tests of -- Comparison with claim (§ 39.803)

Federal district court erred in its finding of non-infringement of contact lens patent, since court, in considering whether accused lenses were "smooth" like patented lenses, did not construe meaning of term "smooth" by resorting to specification, but instead distorted patent's claims by assessing smoothness according to approach that exceeded level of smoothness required in claim.

Particular patents -- Contact Lenses

4,194,814, Fischer, McCandless, and Hager, Transparent Ophthalmic Lens Having Engraved Surface Indicia, holding of invalidity and non-infringement vacated.

Case History and Disposition:

Appeal from District Court for the Northern District of California, Aguilar, J.; 226 USPQ 780 .

Action by Bausch & Lomb, Inc., against Barnes-Hind/Hydrocurve, Inc., and Barnes-Hind International, Inc., for patent infringement, in which defendants counterclaim for declaration of patent invalidity and non-infringement. From judgment for defendants, plaintiff appeals. Vacated and remanded.

Attorneys:

Laurence H. Pretty, and Pretty, Schroeder, Brueggemann & Clark, both of Los Angeles, Calif. (Craig S. Summers, Bernard D. Bogdin, and Howard S. Robbins, all of Rochester, N.Y., on the brief) for appellant.

John M. Calimafde, and Hopgood, Calimafde, Kalil, Blaustein & Judlowe, both of New York, N.Y. (Eugene J. Kalil, Dennis J. Mondolino, and Gilbert W. Rudman, all of Tuckahoe, N.Y., on the brief) for appellees.

Judge:

Before Markey, Chief Judge, Friedman, Circuit Judge, and Nichols, Senior Circuit Judge.

Opinion Text

Opinion By:

Nichols, Senior Circuit Judge.

Appellant Bausch & Lomb, Inc. filed suit in the United States District Court for the North

ern District or California, alleging that appellee Barnes-Hind/Hydrocurve, Inc. and Barnes-Hind International, Inc. (hereinafter Barnes-Hind) infringed patent No. 4,194,814 ('814 patent) in the manufacture and sale of its laser-marked contact lens. Barnes-Hind denied infringement and counterclaimed that the '814 patent was invalid, void, and unenforceable. In No. C-83-20283-RPA, Judge Aquilar found the patent invalid for obviousness and not infringed. We vacate and remand.

Appellee Barnes-Hind relied to a large extent on deposition testimony which was never introduced into evidence. Because this testimony was not in evidence, it would have been improper for us to consider it and, therefore, we did not. This eliminated much of Barnes-Hind's arguments on appeal.

Background

1. *The Technology*

Vision correcting contact lenses have become familiar; hard contact lenses were introduced in the early 1950's and soft lenses in 1971. Toric contact lenses, which correct for the eye condition known as astigmatism, have a similar history of usage: hard lenses from the early 1950's and soft from the first half of the 1970's. Toric lenses differ from standard contact lenses in having a prism base, *i.e.*, one edge portion of the lens is thicker. Proper

prescription and fitting of toric lenses on the cornea of the eye requires alignment of a central lens axis with this prism base. Markings on the contact lens surface greatly facilitate the fitting process.

Inks and other substances have been used since the early 1950's, however, those marking procedures suffer several disadvantages: difficulty of accurate application with possible FDA disapproval; possibility of dissolution, blurring, and allergic reactions. Mechanical marking, as with a sharp scribing tool or an abrading tool such as a dental bur, is also available, but not without its problems: inaccurate and inconsistent positioning of the mark, lens damage, inadequate visibility, and the expense and time involved.

2. *The Patent*

The '814 patent, entitled Transparent Ophthalmic Lens having Engraved Surface Indicia, discloses an engraved contact lens and provides a method of engraving using a source of high intensity electro-magnetic energy, such as a laser. The mark, not as deep as the lens is thick, is surrounded by a smooth surface of unsublimated or unaffected polymer material with the result that edges of the markings do not inflame or irritate the eyelid of the lens wearer.

The claims in suit are 1, 2, and 7. Claim 1 provides:

> An ophthalmic lens adapted to be placed in direct contact with eye tissue formed of a transparent cross-linked polymer material, said lens being characterized by identifying indicia engraved in a surface thereof by subjecting said lens to a beam of radiation emerging from a laser having an intensity and wavelength at least sufficient to sublimate said polymer and form depressions in said lens surface to a depth less than the thickness of said lens, said lens having a smooth surface of unsublimated polymer material surrounding said depressions, and by varying in a predetermined manner the point at which said laser beam impinges upon said lens surfaces to engrave said identifying indicia in said lens surface.

Claim 2 depends from claim 1 with the limitation that the lens is formed by a cross-linked hydrophilic (water loving) polymer. Claim 7, a product claim, is similar to claim 1 but defines the depressions as relieved zones.

3. *The Dispute*

In February 1976, Mr. Donald Hager, then production manager at the Milton Roy Company, a manufacturer of soft contact lenses which was purchased by appellant Bausch & Lomb in 1979, sent to Carco, Inc., a distributor of laser equipment, six soft contact lenses for laser marking. At least two lenses were successfully marked. Around September 1976, Dr. David Fisher and Mr. James A. McCandless, also of Milton Roy Company, met with Mr. Hager to debrief him on the work. Soon thereafter, Mr. Hager resigned.

Dr. Fisher and Mr. McCandless continued to work on the lens-marking system, and in November 1977 filed an application for the patent in suit, listing themselves and Mr. Hager as inventors. Mr. Hager declined to execute the patent application, being at that time the employee of another lens manufacturing company, Sauflon International, Inc. and saying that he had not "invented anything in connection with laser marking of contact lens." He further said that he could not execute documents, under oath or otherwise, that represent the contrary. The patent and Trademark Office (PTO) initially, and on a second occasion, rejected all the claims as obvious over two prior art U.S. patents to Brucker (No. 3,833,786) (teaching the use of a laser to fenestrate, i.e., make holes, in contact lens to allow circulation of fluid through the lens) and to Caddell (No. 3,549,733) (disclosing the use of a laser to remove plastic from the surface of a printing plate to form a pattern). The PTO later issued the patent in 1980 as limited to a transparent cross-linked polymer having a smooth surface around the mark. Mr. Hager

did sign as inventor in 1982. Meanwhile, Milton Roy commenced manufacture and marketing of laser-marked soft contact lenses in 1978.

Barnes-Hind's predecessor, Continuous Curve, Inc., introduced under the trademark HYDROCURVE a line of soft toric lenses around 1975-76 that were marked with an indentation by a bur. In 1981, Barnes-Hind offered a

soft toric lens marked by a laser.

Bausch & Lomb filed suit, contending that certain laser-marked contact lenses manufactured and sold by Barnes-Hind infringe claims 1, 2, and 7 of the '814 patent. Barnes-Hind denied infringement and counterclaimed that the patent was invalid, void, and unenforceable. The parties narrowed the issue of infringement to whether the marks on the HYDROCURVE lenses are surrounded by a smooth surface of unsublimated polymer material with respect to claims 1 and 2 or a smooth and unaffected surface for claim 7.

4. *The District Court Proceedings*

The district court determined that Barnes-Hind "proved by clear and convincing evidence that the patent in suit (4,194,814) and each of its claims is invalid and therefore void." It concluded that the differences between the claims and the prior art would have been obvious, finding that "the fact that the claimed subject matter of the patent in suit was obvious to Mr. Hager is most indicative of the obviousness of the invention," and that "Dr. Brucker's experiments in laser marking contact lenses are further evidence in support of this court's finding of obviousness." The court further concluded that scanning electron microscope (SEM) photographs, showing "that the surface of these lenses surrounding the laser mark are not 'smooth and unsublimated' or 'unaffected' as those terms were defined by plaintiff [appellant] during the processing of the patent in suit," demonstrated lack of infringement in any case. Bausch & Lomb appealed.

Opinion

The judgment is premised on several legal errors: (1) disregard of the presumption of validity established by 35 U.S.C. § 282; (2) absence of the factual findings on the four inquiries mandated by *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966); and (3) improper claim construction leading to the conclusion of noninfringement. We vacate the court's opinion and remand for a determination consistent with this opinion.

1. *Presumption of Validity*

A patent shall be presumed valid, and each claim shall be presumed valid independently of the validity of other claims. 35 U.S.C. § 282. The burden is on the party asserting invalidity to prove it with facts supported by clear and convincing evidence. *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 872, 228 USPQ 90, 97 (Fed. Cir. 1985); *Jones v. Hardy*, 727 F.2d 1524, 220 USPQ 1021 (Fed. Cir. 1984).

The record contains no reference to this statutory presumption of validity, nor does it appear that the district court considered separately the validity of the three claims at issue. By merely holding that "defendants have proved by clear and convincing evidence that the patent in suit (4,194,814) and each of its claims is invalid and therefore void," the district court improperly denied the '814 patent its statutory presumption of validity as to each claim.

The district court thought the examiner had been misled. Barnes-Hind argued and argues here that Bausch & Lomb (or rather its later acquired company Milton Roy) misled the examiner during prosecution. Appellees assert that "if the examiner had been correctly and forthrightly informed of Hager's and McCandless' opinions, the chemistry of the Brucker lens, and the teaching of the Caddell patent, he would not have issued the patent." The record, however, does not support this assertion.

The examiner did know of Hager's temporary refusal to execute the application during prosecution and, as discussed more fully *infra*, a determination of nonobviousness is based, *inter alia*, on the opinion of a hypothetical person of ordinary skill in the art, not on the inventors' opinion. The weight to be attached to Hager's refusal cannot be exaggerated as the court below has done without clear error in view of Hager's self interest as an employee of a competitor and his later change of position. Instances of inventors refusing even to cooperate in obtaining issuance of a patent to be owned by an assignee are common and machinery is provided in 37 C.F.R. § 1.47 to deal with them. Section 1.47 provides that either a joint inventor or a proper assignee may file the application without the consent or signature of the inventor, just so the oath or declaration is accompanied by a petition including proof of pertinent facts. It is clear, therefore, that the PTO does not allow the inventor to erect

that type of obstacle to obtaining patent protection. Such forethought is necessary, as otherwise an inventor's changed self interest might nullify a proper assignment. The district court's heavy reliance on Mr. Hager's assertions, if persisted in, would allow a co-inventor another chance at sabotage if the first effort has failed.

Finally, the examiner, who with the deference we owe governmental officials we assume has some expertise in interpreting the refer

ences and some familiarity with the level of skill in the art, *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359, 220 USPQ 763, 770 (Fed. Cir.), *cert. denied,* ___ U.S. ___, 105 S.Ct. 95, 224 USPQ 520 (1984), did have the Brucker and Caddell patents before him. Barnes-Hind's "misleading the examiner" contention is insufficiently supported to overcome the presumption of validity.

As a final matter, we recognize, as the district court did not, that when the prior art before the court is the same as that before the PTO, the burden on the party asserting invalidity is more difficult to meet. *American Hoist,* 725 F.2d at 1359, 220 USPQ at 770.

2. *Graham* Findings

Obviousness under 35 U.S.C. § 103 is a question of law based on the underlying factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966): (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the art; and (4) objective evidence of secondary considerations. *See, e.g., Loctite,* 781 F.2d at 872, 228 USPQ at 97-98.

The *Loctite* court further stated:

> In patent cases, the need for express *Graham* findings takes on an especially significant role because of an occasional tendency of district courts to depart from the Graham test, and from the statutory standard of obviousness that it helps determine, to the tempting but forbidden zone of hindsight. Thus we must be convinced from the opinion that the district court actually applied *Graham* and must be presented with enough express and necessarily implied findings to know the basis of the trial court's opinion.

Id, 228 USPQ at 98.

Here, as in *Loctite* and in *Jones,* we are not convinced that the district court applied the *Graham* findings. Instead, it found Mr. Hager's opinion that the subject matter was obvious "most indicative of the obviousness of the invention." This was legal error.

Unlike the district court, we have the benefit of the very clear exposition of the law in *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 454, 227 USPQ 293, 297-98 (Fed. Cir. 1985):

> The issue of obviousness is determined entirely with reference to a *hypothetical* "person having ordinary skill in the art." It is only that hypothetical person who is presumed to be aware of all the pertinent art. The actual inventor's skill is irrelevant to this inquiry, and this is for a very important reason. The statutory emphasis is on a person of *ordinary* skill. Inventors, as a class, according to the concepts underlying the Constitution and the statutes that have created the patent system, possess something -- call it what you will -- which sets them apart from the workers of *ordinary* skill, and one should not go about determining obviousness under § 103 by inquiring into what *patentees* (i.e., inventors) would have known or would likely have done, faced with the revelation of references. [Emphasis in original.]

[1] In this regard then, the district court erred at least three times: it relied too heavily on the alleged opinion of one who was an inventor and patentee, and misused that opinion as a substitute for determining the level of skill of the hypothetical person of ordinary skill and what that person would have been able to do when in possession of the prior art, the scope and contents of which the court should also have determined.

The court also engaged in improper hindsight analysis to conclude the '814 patent would have been obvious. The court essentially adopted Barnes-Hind's argument that "the concept of forming ridgeless depressions having

smooth rounded edges using a laser beam to vaporize the material is explicitly disclosed in the Caddell patent. *This is exactly the same process claimed in the patent-in-suit and practiced by the plaintiff."*

Barnes-Hind selected a single line out of the Caddell specification to support the above assertion: "one way in which this [forming ridgeless depressions] can be achieved is to use a laser with high enough intensity to vaporize the plate material without melting it." Col. 5, lines 53-54. This statement, however, was improperly taken out of context. As the former Court of Customs and Patent Appeals held:

> It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art.

In re Wesslau, 353 F.2d 238, 241, 147 USPQ 391, 393 (CCPA 1965); *see also In re Mercer,* 515 F.2d 1161, 1165-66, 185 USPQ 774, 778 (CCPA 1975).

A full appreciation of Caddell's statement requires consideration of the immediately following sentences in the same paragraph and the paragraph after that. Viewed in that context, it is apparent that Caddell's ideal printing plate would have no ridges around the depression. The use of a high intensity laser is offered as a possible means to achieve the goal but is limited by several disadvantages. To overcome these disadvantages, Caddell suggests the use of a special class of polymer that forms ridgeless depressions. A complete read

ing demonstrates quite clearly that Caddell is setting up a strawman and pointing out its disadvantages to highlight the advantages of Caddell's invention, that special class of polymers. The district court improperly viewed an isolated line in Caddell in light of the teaching of the '814 patent to hold for obviousness. This is improper hindsight analysis.

The district court also failed to consider the Caddell reference in its entirety and thereby ignored those portions of the reference that argued against obviousness. *W. L. Gore & Associates, Inc. v. Garlock, Inc.,* 721 F.2d 1540, 1550, 220 USPQ 303, 311 (Fed. Cir. 1983), *cert. denied,* ___ U.S. ___, 105 S. Ct. 172 (1984). Caddell compared the ridge formation of his special class of polymers against, *inter alia,* Lucite, a copolymer composed of ethyl acrylate with methylmethacrylate -- very similar to the chemical referred to in the '814 patent -- and found that *only* his special class formed depressions without ridges. Thus, Caddell actually taught away from laser etching of soft contact lenses.

As further evidence of obviousness, the district court relied on Dr. Brucker's experiments in laser marking contact lenses. This too was error, in this case clearly erroneous factual error. The record does not support, indeed it contradicts, the supposition that Dr. Brucker had engaged in laser marking of soft contact lenses at the time of the present invention. On page 385 of the Appendix, in reply to Mr. Calimafde's question "when did Continuous Curve begin to experiment with laser marking of soft contact lenses?", Dr. Brucker replied "I believe it was in '79 -- '79, '80, somewhere in that area." The filing date of the '814 patent was November 10, 1977. Brucker's 3,833,786 patent for a method of fenestrating (putting windows in) contact lenses applies according to its claims to such lenses, both soft and hard. However, the record reflects that the need for such fenestration was as a mode of escape for fluid accumulating between the lens and the eye. Such a need does not exist respecting the soft lenses, the principal subject of the claims in suit, of which claim 2 is expressly limited to soft lenses. They, being hydrophilic, absorb the fluid.

In sum, the district court improperly determined the '814 patent was obvious: it failed to make the Graham inquiries, it improperly focused on what was obvious to the inventor, it engaged in hindsight analysis, and it considered evidence that was not prior art. This court, as an appellate court, may not make the required Graham factual findings, and must therefore remand that determination to the district court. The district court should not ignore the four-part analysis the authorities require.

a. *Th scop and content of prior art*

To determine whether a reference is within the scope and content of the prior art, first determine if the reference is within the field of the inventor's endeavor. If it is not, then next consider whether the reference is reasonably pertinent to the particular problem with which the inventor was involved. *In re Richard M. Deminski,* 230 USPQ 313, 315, No. 85-2267, slip op. at 9 (Fed. Cir. July 8, 1986); *Stratoflex, Inc. v. Aeroquip Corp.,* 713 F.2d 1530, 1535, 218 USPQ 871, 876 (Fed. Cir. 1983). *Orthopedic Equipment Co., Inc. v. United States,* 702 F.2d 1005, 1008-11, 217 USPQ 193, 196-97 (Fed. Cir. 1983) focused on the claims in suit, the art the PTO applied to the claims, and the nature of the problem confronting the inventor. Further, the art must have existed as of the date of invention, presumed to be the filing date of the application until an earlier date is proved.

b. *The differences between the claimed invention and the prior art*

The court must view the claimed invention *as a whole. See, e.g., Jones,* 727 F.2d at 1527-28, 220 USPQ at 1024. We add, as a cautionary note, that the district court appeared to distill the invention down to a "gist" or "core," a superficial mode of analysis that disregards elements of the whole. It disregarded express claim limitations that the product be an ophthalmic lens formed of a transparent, cross-linked polymer and that the laser marks be surrounded by a smooth surface of unsublimated polymer. *See also, ACS Hospital Systems, Inc. v. Montefiore Hospital,* 732 F.2d 1572, 221 USPQ 929 (Fed. Cir. 1984).

c. *Level of ordinary skill in the art*

In *Environmental Designs, Ltd. v. Union Oil Co.,* 713 F.2d 693, 697, 218 USPQ 865, 868-69 (Fed. Cir. 1983), *cert. denied,* 464 U.S. 1043 (1984), the court listed six factors relevant to a determination of the level of ordinary skill: educational level of the inventor, type of problems encountered in the art, prior art solutions, rapidity of innovation, sophistication of technology, and educational level of active workers in the field. As to educational level of the inventor, *see Standard Oil Co. v. American Cyanamid Co.,* 774 F.2d 448, 227 USPQ 293 (Fed. Cir. 1985); *Orthopedic Equipment Co. v. All Orthopedic Appliances,* 707 F.2d 1376, 1382, 217 USPQ 1281, 1285 (Fed. Cir. 1983) ("Although the educational level of the inventor may be a factor in determining the level of ordinary skill in the art, it is by no means conclusive.")

d. *Objective indicia of obviousness*

Such "secondary considerations," when present, must always be considered. Stratoflex, 713 F.2d at 1538, 218 USPQ at 878-79. *See also Cable Electric Products, Inc. v. Genmark,*

Inc., 770 F.2d 1015, 1026-28, 226 USPQ 881, 887-88 (Fed. Cir. 1985). Such evidence includes commercial success, long felt but unresolved needs, and failed attempts. *Perkin-Elmer Corp. v. Computervision Corp.,* 732 F.2d 888, 895-96, 221 USPQ 669, 675 (Fed. Cir.), *cert. denied,* ___ U.S. ___, 105 S.Ct. 187, 225 USPQ 792 (1984).

We shall vacate the trial court's opinion and remand for an obviousness determination consistent with this opinion.

3. *Infringement*

The parties narrowed the infringement issue for trial to the question whether the surface of Barnes-Hind lenses surrounding the laser mark is "smooth and unsublimated" or "unaffected." The district court concluded that "the laser-engraved depressions in the surface of the HYDROCURVE II lenses have been examined by scanning electron microscope. These photographs show that the surface of these lenses surrounding the laser mark are not 'smooth and unsublimated' or 'unaffected' as those terms were defined by plaintiff during the prosecution of the patent in suit." Appellant Bausch & Lomb argues on appeal that the trial court's approach of assessing smoothness at the very high levels of magnification obtainable by a SEM exceeds the level of smoothness required in the

claims. We agree.

Because the first step in determining infringement is claim construction, improper claim construction can distort the entire infringement analysis. *Moeller v. Lonetics, Inc.,* 229 USPQ 992, 994, No. 85-2646, slip op. at 7 (Fed. Cir. June 4, 1985). Such a distortion occurred below.

Disputed issues such as the meaning of the term "smooth," should be construed by resort to extrinsic evidence such as the specification, other claims, and the prosecution history. Here, resort to the specification clearly demonstrates that "smooth" meant that "the edges of the craters neither inflame nor irritate the eyelid of the lens wearer * * *. The markings provided on the lens surface in accordance with this invention * * * are not perceived by the lens wearer * * *." The prosecution history supports this construction. A reading of the amendment and its accompanying remarks demonstrates that smooth means the absence of a ridge that "would scratch either the eye or eyelid and would lead to infection." There is no indication that smooth means absolutely ridge-free. (This review of the prosecution history also leads us to disagree with Barnes-Hind's final argument that the prosecution history estops Bausch & Lomb from asserting infringement against the allegedly ridged HYDROCURVE lens.) Testimony from Dr. Mandell, Bausch & Lomb's expert in the field of contact lenses, indicates that to a person of ordinary skill in the art, smooth would mean an absence of "roughness or significant elevation" so that a wearer "would not feel it with the [eye]lid." Further, there is testimony that a person of ordinary skill in the art would use an optical microscope, not an SEM, to gauge the relative smoothness of an etched contact lens.

[2] We hold that smooth means smooth enough to serve the inventor's purposes, *i.e.,* not to inflame or irritate the eyelid of the wearer or be perceived by him at all when in place. Accordingly, we vacate the district court's conclusion that the surface of the HYDROCURVE lenses are not smooth or unaffected, and remand for a determination of infringement based on the proper construction of and proper test for smooth.

Conclusion

We vacate the district court's determination that the '814 patent is invalid and remand for a reconsideration of validity in light of the presumption of validity and the *Graham* findings on obviousness. We further vacate the decision of noninfringement and remand for proper claim construction and infringement analysis.

VACATED AND REMANDED

- End of Case -

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FULL TEXT OF CASES (USPQ2D)
All Other Cases

Bausch & Lomb Inc. v. Barnes-Hind/Hydrocurve Inc. (DC NCalif) 10 USPQ2d 1929 Bausch & Lomb Inc. v. Barnes-Hind/Hydrocurve Inc.

U.S. District Court Northern District of California
10 USPQ2d 1929

Decided March 22, 1989
No. C 83-20283 RPA

Headnotes

PATENTS

1. Patentability/Validity -- Obviousness -- Relevant prior art (§ 115.0903)

Relevant prior art for determining obviousness of laser-engraved soft contact lens invention consists primarily of patent for laser apparatus for cutting holes in hard contact lenses and patent disclosing use of laser to engrave plastic surface of printing plate, plus development of laser technology between 1968 and 1976.

2. Patentability/Validity -- Obviousness -- Combining references (§ 115.0905)

Patent for laser-engraved soft contact lens is not obvious in view of prior patent on laser apparatus for fenestration of hard contact lenses in combination with prior patent disclosing use of laser to engrave plastic surface of printing plate, since latter patent "taught away" from using process on materials suitable for soft contact lenses, and since Court of Appeals for the Federal Circuit held, as law of case, that one skilled in art would not have construed laser fenestration teachings of former patent as applying to soft contact lenses.

3. Patentability/Validity -- Obviousness -- Secondary considerations generally (§ 115.0907)

Evidence of secondary considerations is not persuasive as to non-obviousness of patent for laser-engraved soft contact lens, since evidence of copying is inconclusive, since need to use automatic engraving was not long-felt but rather arose in early 1980s as result of growth in sales of soft contact lenses, and since patented marking system did not bring patent holder commercial success.

4. Infringement -- Literal infringement (§ 120.05)

Plaintiff's patent for laser-engraved soft contact lens is infringed by defendants' contact lenses, since issue of infringement involves only whether surface of defendants' lens surrounding laser marks is "smooth," since specification indicates that "smooth" means absence of ridges that would scratch eye or eyelid, and since defendants' lenses do not inflame or irritate wearers' eyes.

Particular patents -- General and mechanical -- Contact lenses

4,194,814, Fischer, McCandless and Hager, transparent opthalmic lens having engraved surface indicia, valid and infringed.

Case History and Disposition:

On remand from the U.S. Court of Appeals for the Federal Circuit; 230 USPQ 416 .

Action by Bausch & Lomb Inc. against Barnes-Hind/Hydrocurve Inc. and Barnes-Hind International Inc., for patent infringement. On remand from decision vacating judgment for defendants. Judgment for plaintiff.

Attorneys:

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Opinion Text

Opinion By:

Aguilar, J.

FINDINGS OF FACT AND CONCLUSIONS OF LAW FOLLOWING REMAND

This patent infringement case returns to this Court on remand from the United States Court of Appeals for the Federal Circuit. The circuit vacated the judgment entered after trial as improper for the following reasons:
(1) this Court did not explicitly set forth in its Order the presumption of validity that it awarded the patent under 35 U.S.C. §282;
(2) the Court did not set forth factual findings on the four inquiries mandated by *Graham v. John Deere Co* ., 383 U.S. 1, 17 [148 USPQ 459, 467] (1966); and
(3) the circuit court found this Court engaged in improper claim construction.

Bausch & Lomb v. Barnes-Hind/Hydrocurve , 796 F.2d 443 [230 USPQ 416] (Fed. Cir. 1986).
Consistent with the appellate court's opinion, and after a review of the entire record, the Court HEREBY ENTERS the following findings of fact and conclusions of law.

I. FACTUAL FINDINGS

A. A Short History Of The Patent In Suit

Plaintiff Bausch & Lomb owns U.S. Patent No. 4,194,814 ('814) entitled "Transparent Ophthalmic Lens Having Engraved Surface Indicia" issued on May 25, 1980 to David J. Fischer, James A. McCandless and James D. Hager. At this time of the patent application, the inventors were employed by Milton Roy Company, which manufactured soft contact lenses. The patent application for their invention was assigned to Milton Roy Company. Plaintiff acquired the '814 patent as a result of its purchase in 1979 of the soft contact lens manufacturing business of Milton Roy Company.
Patent '814 claims a soft contact lens formed of a transparent cross linked polymer marked with identifying indicia by a laser. The patent claims the process for making the marked lens.
The inspiration for the claimed invention dates back to February 1976, when James Donald Hager, the production manager of Milton Roy at the time, saw Carco, Inc.'s advertisement on the use of a laser to mark fragile objects. At the time, Milton Roy was contemplating, among other things, marking lenses with a patient's complete medical history using Egyptian hieroglyphics. At the request of Mr. Hager, Carco used a Lumonics laser to mark cross-linked contact lenses in their unhydrated, or hard, state. Carco marked the first lenses sometime between May and July. Between three and four lenses were successfully marked. The initial experimentation used patriotic bicentennial excerpts rather than Egyptian hieroglyphics.
Mr. Hager resigned from Milton Roy around September of 1976 and began working at Sauflon International where he installed a system for marking lenses with lasers. Shortly before he left, Dr. Elliot Fischer and Mr. Jim McCandless met with Mr. Hager to debrief him on his work.
On November 10, 1977, Milton Roy filed a patent application listing Dr. Fischer, Mr. McCandless and Mr. Hager as inventors. Attached to the application was a letter from Mr. Hager refusing to execute the proposed application because he felt that he had not invented anything in connection with the laser marking of contact lenses and specifically, that he did not believe any of the results he had obtained were unexpected.
The Patent and Trademark Office initially rejected all the claims as being obvious and, therefore, unpatentable over certain "prior art" patents, namely U.S. patents 3,833,786 to Donald Brucker and 3,549,733 to J.R. Caddell. The Caddell patent discloses the use of a laser to remove plastic from the surface of a printing plate to form a pattern.
The depth of the depression can be selectively varied by modulating the intensity of the beam.
The Brucker patent teaches the use of a laser to fenestrate, i.e. to make holes, in a plastic contact lens to allow tears

to flow to the eye from underneath the hard lens. Until the time of the Brucker patent, the drilling of holes was done by the same microdrills used for marking the lenses. The Brucker patent is applicable to cross-linked and non-cross-linked lens materials.
In response to the rejection, the claims of the application were amended to recite that the contact lens was of a transparent, cross-linked polymer having a smooth surface around the mark. The patent applicants distinguished Caddell as only teaching one material, a linear polymer compound known as Delrin. Delrin is not a transparent material, and the applicants noted, totally unsuitable for the manufacture of contact lenses. The patent examiner again rejected the claims. However, the applicants reargued the unsuitability for contact use of the nontransparent materials used in the prior patent. They stated: "[t]he invention, therefore, can be considered to be the discovery that cross-linked polymer materials do not form such ridges, and are specifically suited for the practice of the process of the invention."
After a personal interview with the examiner, the examiner allowed the claims, and the patent issued on March 25, 1980. In an Official Letter to plaintiff, the examiner indicated that he was allowing the claims because the prior art did not disclose specifically the "transparent cross linked . . . having smooth surfaces of unsublimated polymer."
The claims in suit are 1, 2 and 7. Claim 1 provides:
An ophthalmic lens adapted to be placed in direct contact with eye tissue formed of a transparent cross-linked polymer material, said lens being characterized by identifying indicia engraved in a surface thereof by subjecting said lens to a beam of radiation emerging from a laser having an

intensity and wavelength at least sufficient to sublimate said polymer and form depression in said lens surface to a depth less than the thickness of said lens, said lens having a smooth surface of unsublimated polymer material surrounding said depression, and by varying in a predetermined manner the point at which said laser beam impinges upon said lens surfaces to engrave said identifying indicia in said lens surface.
Claims 2 and 7 are dependent claims, claim 2 refers to a hydrophilic polymer and claim 7 calls the polymer a soft lens.

B. *The Allegedly Infringing Use*

Prior to December 1981, defendant's predecessor Continuous Curve had marked its soft toric lenses by drilling or burring on the individual HYDROCURVE lenses. In about 1979, Mr. Jakoski, defendant's production manager, was asked to create a laser marking system at Continuous Curve. In 1978, Mr. Jakoski had visited Sauflon International where he met with Mr. Hager and saw the Sauflon laser marking installation. Mr. Jakoski knew that the first company to go commercial with a laser marked contact lens had been Milton Roy. Mr. Jakoski later visited the Milton Roy plant where he was shown their laser marking system. Mr. Jakoski has admitted that the system which he subsequently installed for Continuous Curve to laser mark lenses was essentially similar to the system that he saw at Milton Roy, apart from some mechanical details on the mounting of the lens. He testified that the equipment was the same although the process was somewhat different. Continuous Curve used the same laser to mark the lenses that it used to fenestrate its hard lenses.
In 1981, defendant, as successor to Continuous Curve, for the first time offered a soft toric lens marked by a laser. Plaintiff contends that defendants' laser marked lenses marketed under the trademark HYDROCURVE II infringe the '814 patent.
Defendants deny infringement and by way of counterclaim seek a declaration that the patent in suit is invalid, void and unenforceable.

III. DISCUSSION :

A. *Presumption of Validity*

As it did when considering the evidence after the trial, the Court begins its review of the patent with the presumption of validity afforded to patents under 35 U.S.C. §282.

B. *Is Th Patent Invalid As Obvious ?*

Defendants contest the presumptive validity of the patent on the grounds that a review of the evidence, including evidence not before the Examiner, will show that the patent was obvious under 35 U.S.C. §103.
The legal determination of obviousness must be based on the factual inquiries set forth in *Graham v. John Deere Co* ., 383 U.S. 1, 17 [148 USPQ 459, 467] (1966), namely:
(1) the scope and content of the prior art;
(2) the differences between the prior art and the claims at issue;
(3) the level of ordinary skill in the art; and
(4) objective evidence of secondary considerations.

(*1) Scope and Content of Prior Art*

[1] The prior art consists primarily of two patents -- the Caddell and Brucker patents. The Brucker patent is within the field of the inventor's endeavor and the Caddell patent would have been "reasonably pertinent to the particular problem with which the inventor was involved. *In re Richard M. Deminski* , No. 85-2267, slip op. at 9 [230 USPQ 313, 315] (Fed. Cir. July 8, 1986); *Stratoflex, Inc. v. Aeroquip Corp* ., 713 F.2d 1530, 1535, 218 USPQ 871, 876 (Fed. Cir. 1983)." *Bausch Lomb v. Barnes-Hinds/Hydrocurve* , 796 F.2d at 449 [230 USPQ at 420].
The Brucker patent, filed on June 8, 1973, discloses a laser apparatus for fenestrating contact lenses. A contact lens is positioned beneath a laser which is operated to burn a hole completely through the lens, after which the lens is indexed rotationally for the burning of the next hole, until a ring of holes has been created around the periphery of the lens. The laser-produced holes have fire polished, smooth edges at both the posterior and anterior surfaces. The fenestrated contact lens enabled liquid between the eye and the lens to be pumped out through the holes when the wearer blinked. Prior to Dr. Brucker's invention, lenses were fenestrated using a drill.
Continuous Curve, formed by Dr. Brucker in 1960, began commercially fenestrating hard contact lenses with his patented Laser-Con process around 1972 or 1973. The lenses were made of a cross-linked plastic material known as polymethyl methacrylate (PM MA). However, the Laser-Con process could

also be used to fenestrate soft lenses, as was disclosed in an article by Dr. Brucker.
A similar technique for fenestrating or drilling contact lenses was published on December 10, 1972. Dr. Adolph Lombart, a research optometrist, described a Micropore technique developed by George Meszaros and Cornell S. Marshalko for fenestrating contact lenses with a laser that "vaporizes the plastic, cutting, polishing and sealing it at the same time."
The Caddell patent, filed on December 4, 1968, discloses the use of a laser to engrave marking on plastic on the surface of a printing plate to form a pattern.
The Caddell patent states that laser engraving of any material, particularly a polymer, generally proceeds by melting and results in depressed areas surrounded by ridges. The Caddell patent was directed to the use of Caddell's special polymer which did not form ridges when etched with a laser beam. In particular, Caddell pointed to the use of Delrin as a polymer which could produce a ridgeless depression when etched with a laser beam. None of the non-ridge forming polymer materials described in the Caddell patent are transparent or cross-linked. Caddell specifically mentions that the laser etching is not possible with Lucite, which is a linear polymethyl methacrylate. Contact lenses are made from cross-linked polymethyl methacrylate.
The Caddell patent contains the following disclosure:
Ideally, the printing plate should have no ridges around the depressions. The plate should be smooth except in the

area of the depression which should have sharp regular edges. One way in which this can be achieved is to use a laser with high enough intensity to vaporize the plate material without melting it. While workable, this solution has several disadvantages. First of all, the higher the intensity of the laser the higher the costs. Second, even if a laser with sufficient intensity to vaporize the material without melting it were used, it would be virtually impossible to vaporize the material without some melting of the periphery where the intensity of the beam is lower than it is in the center of the beam. Under the best of circumstances, some rounding of the edges would occur. Finally, it would be virtually impossible to produce a plate with a variation in the depth of the depression corresponding to gradation in the picture to be reproduced by modulating the intensity of the incident beam. Caddell then proceeds to describe the benefit of the use of a material such as Delrin which tends to leave sharp edges when melted.

Plaintiff submits that the development of lasers from 1968 to 1976 must be considered under a discussion of prior art. When Caddell filed his patent in 1968, he used a laser made by Coherent Radiation Laboratory, which was a CO_2 laser operated at 30 watts for 10 milliseconds.

The laser used in the 1973-75 period by Continuous Curve for drilling had controls for varying the power and amplitude of the beam. The laser used in 1976 was then recently introduced and made by Lumonics of Ontario, Canada and was described in the advertisement that caught Mr. Hager's eye. This advertisement refers to the LASER-MARK system of Lumonics Laser Marking Div. and discloses that the process is applicable to "most plastics" and that the mark is produced by vaporizing the material. It could produce "extremely small, highly detailed marks" and was "capable of high production rates."

The Carco/Lumonics advertisement that piqued Mr. Hager's interest did not make any specific reference to transparent plastics, cross-linked plastics or any plastics that could be used for contact lenses. As mentioned earlier, the advertisement indicated it was applicable to "most plastics."

(2) The Differences Between The Prior Art And Claims 1, 2, and 7 .

Plaintiff's expert, Dr. Mandell, testified that the Caddell patent and the Bausch and Lomb patent are the same in the following respects: both have the same object in mind, making a ridgeless depression in plastic; both use the same CO_2 type of laser; both use a mask to direct the energy of the laser to a particular area of the plastic; both control the intensity of the laser beam to control the depth of penetration. Dr. Mandell also admitted that whether you drill a hole through the matter, or etch away surface material to engrave the material, you would use the same procedure.

However, Dr. Mandell also made it clear that the essential difference between the Caddell patent and the Bausch and Lomb patent was the material. Caddell taught the use of a non-transparent polymer and Bausch and Lomb used a transparent cross-linked polymer suitable for contact lenses. In accord with the patent, hard and soft lenses may be marked, although the marking is always done when the lens is in a hard, unhydrated state.

The Brucker patent taught use of a laser to vaporize smooth, ridgeless holes in contact

lenses. The commercially marketed fenestrated lenses were made of cross-linked polymer. The central difference between Brucker and the patent claims at issue is the control of the laser to vaporize the material to a specific depth.

Plaintiff asserts that this is an essential distinction since any melted, but not vaporized, plastic is blasted out through the bottom of the hole while, with a depression, the melted plastic is trapped, flows up from the bottom by convection and forms ridges along the edges of the trough. However, plaintiff's expert, Ronald Salovey, qualified this evidence by noting that noncross-linked polymers flowed or melted, but that it was common knowledge prior to 1977 that cross-linked polymers would probably not melt. In addition, the blast out theory contradicts the Caddell patent.

Additionally, plaintiffs point to testimony that the Brucker patent teaches away from the application of lasers to hydrophilic materials since persons of ordinary skill in the art of designing contact lenses knew that hydrophilic materials do not require fenestration since the material allows oxygen to pass right through them. Fenestration was never applied on a commercial scale to soft lenses.

(3) Level Of Ordinary Skill In The Art .

Six factors are relevant to a determination of the level of ordinary skill: (a) educational level of the inventor; (b) type of problems encountered in the art, (c) prior art solutions, (d) rapidity of innovation, (e) sophistication of technology, and (f) educational level of active workers in the field. *Environmental Designs Ltd. v. Union Oil Co .*, 713 F.2d 693 [218 USPQ 865] (Fed. Cir. 1983).

The art to which the subject matter of the '814 patent pertains is the art of designing and marking contact lenses, using both lasers and with mechanical marking. The use of lasers to mark plastics is a necessary subcomponent of the relevant art at issue in the '816 patent.

The inventor Hager is a high school graduate with substantial technical experience in lens making. Co-inventor McCandless' experience was similar to that of Hager, while Dr. Fischer holds a Ph.D.

Marking of toric lenses was traditionally done by hand using a burr. Continuous Curve used this method until the sales volume of toric lenses justified a change to an automated system of lens marking.

Plaintiff's expert testified that he was not aware that a laser could be controlled to go part way through the thickness of a transparent polymer without creating ridges. Although he did admit that this was common knowledge to those skilled in the art of laser marking plastics since the Caddell patent disclosed the use of a laser to mark plastics.

Plaintiff's expert testified that the two unknowns in the field at the time of the invention were the use of a laser controlled to go part way through a plastic and the knowledge that transparent cross-linked polymer would not melt and form ridges when blasted with a laser.

Mr. Mandell admitted that the Caddell patent taught the use of a laser to etch a plastic without creating a hole through the material. The obviousness of the use of a laser to control the depth of an impression, he testified, applied to its use on contact lenses *only* if it were known that the same process could be used with a polymer suitable for lenses.

[2] Because Caddell taught away from using the process on any other material besides Delrin, it would not have been obvious to mark a lens with the Caddell process.

The Brucker patent provided the missing link that a laser could be used on a transparent polymer without creating ridges.

Although the combination of the Caddell patent and the Brucker patent supplies the two missing links in the equation, selective combination of prior art references must flow from a teaching contained in the references. *Ashland Oil, Inc v. Delta Resins Refractories, Inc .*, 776 F.2d 281 [227 USPQ 657] (Fed. Cir. 1985), *cert. denied* , 475 U.S. 1017 (1986).

Brucker taught the use of a laser to fenestrate a polymer used in lenses. However, the intended use of the Brucker patent was to bore a hole completely through the plastic to allow tears to flow to the eye.

t is generally settled that the change in prior art device which makes the device inoperable for its intended purpose cannot be considered to be an obvious change.

Hughes Aircraft Co v. United States , 215 U.S.P.Q. 787, 804 (Ct.Cl. Trial Div. 1982) modified (to affirm validity and reverse infringement holding), 717 F.2d 1351 [219 USPQ 473] (Fed. Cir. 1983).

As law of the case, the Federal Circuit held that one skilled in the art would not have construed the laser fenestration teachings of the Brucker patent as applying to soft contact lenses. *Bausch & Lomb* , 796 F.2d at 449 [230 USPQ at 420]. The combination of the patents, therefore, fails to legally establish obviousness.

(4) *Objective Evidence Of Secondary Considerations*

The Court has examined secondary considerations of copying, failure of others and commercial success and found them to be unpersuasive in this case.

[3] Although an employee of Continuous Curve visited the Milton Roy plant and saw the laser marking techniques in 1981, in 1978, he had observed a similar marking process installed at Sauflon Industries by Mr. Hager. The evidence indicates that the need to go to automated marking was not long-felt, but rather in response to the growth in sales of soft contact lenses in the early 1980's. Milton Roy, the patent holder, did not experience commercial success on the basis of the patented marking system, but was bought out by a successful company renowned in the field of eye care products.

In summary, the obviousness of the patent turns on whether or not the Caddell and Brucker patents can be combined to suggest the use of a laser to vaporize a polymer suitable for lenses to a partial depth. The law of the case prevents the application of the Brucker patent to a use which renders it inoperable to the problem of fenestrating the contact lens. Accordingly, this Court finds that the patent is not invalid for obviousness.

B. INFRINGEMENT

[4] Defendants' Hydrocurve II contact lenses are charged to infringe claims 1, 2 and 7 of the '814 patent. The parties narrowed the issue of infringement at trial to the question of whether the surface of the Defendant's lenses surrounding the laser mark is "smooth and unsublimated" or "unaffected."

The specification of the patent in suit indicates that "smooth" means that the surface of the lens surrounding the mark neither inflames nor irritates the eyelid of the wearer. The specification also indicates that "smooth" means the absence of a ridge that would scratch either the eye or eyelid and lead to infection.

Defendants' lenses do not inflame or irritate the eyelids of wearers. Dr. Mandell's examination of the Hydrocurve lenses showed that they would be considered "smooth" at the level of smoothness required by an optometrist. This testimony was uncontradicted.

Since the surface of the HYDROCURVE lenses have been found to be smooth to the contact lens wearer, the Court finds that defendants' lenses infringe the claims of the patent in suit.

IV. CONCLUSION

Defendants must overcome the presumptive validity of claims 1, 2 and 7 of the '816 patent by clear and convincing evidence. 35 U.S.C. §282; *Bausch & Lomb* , 796 F.2d at 446 [230 USPQ at 418]. Defendants attempted to meet this "most formidable" burden, *Central Soya Co. Inc. v. George A. Hormel and Co* ., 723 F.2d 1573, 1577 [220 USPQ 490, 492] (Fed. Cir. 1983), by showing that the prior art, in combination, made obvious the use of a laser to score a contact lens. 35 U.S.C. §103.

However, while the Caddell patent taught the use of a laser to mark a specific plastic, Delrin, to varying depths, and the Brucker patent taught the use of a laser on a polymer suitable for use in a contact lens, these two prior art references cannot be combined to show obviousness. The Caddell patent taught away from using any other polymer beside Delrin. The Brucker patent, by law of the case, can not be combined with the Caddell patent to teach marking of a lens instead of fenestration since to do so would frustrate the intended purpose of the Caddell patent. In *re Gordon* , 733 F.2d 900, 902 [221 USPQ 1125, 1127] (Fed. Cir. 1984). In addition, the federal circuit has held that Caddell actually taught away from the use of a laser to etch soft contact lenses.

As a matter of law, defendants have failed to meet their burden of showing obviousness based on the prior art references of Caddell and Brucker. An ordinary person skilled in the art of designing contact lenses would not have found the invention obvious without the knowledge that a laser could be controlled to mark a cross-linked polymer to a partial depth without creating ridges. This is the essence of the invention.

The Court has considered the submitted evidence of secondary considerations and finds it does not alter the outcome of its holding.
The issue of infringement, whether or not the HYDROCURVE II lenses have a "smooth surface of unsublimated polymer surrounding said depressions" has been proven by a preponderance of the evidence. A wearer of the contact lenses would find the lens to be smooth as described in the text of the patent.
The Court finds that defendants' HYDROCURVE II lens marked by means of a laser infringes patent '816 claims 1, 2 and 7.
Defendants are enjoined from the date of entry hereof from making, using or selling

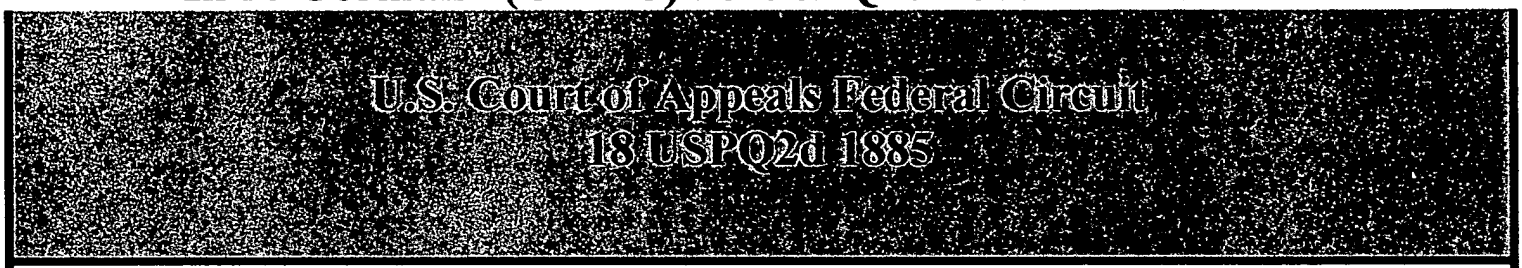
the HYDROCURVE II lenses and any other contact lenses marked with a laser that infringe the '814 patent.
Pursuant to a Stipulation and Order dated November 23, 1985, the parties may now conduct discovery on the issue of damages, with a second trial on this issue to follow on a date set by the Court.
Any finding of fact which is actually a conclusion of law is deemed to be a conclusion of law. Any conclusion of law which is actually a finding of fact is deemed to be a finding of fact.
Status conference is set for May 19, 1989 at 10:30 a.m.
IT IS SO ORDERED.

- End of Case -

Intellectual Property Library ISSN 1526-8535

FULL TEXT OF CASES (USPQ2D)
All Other Cases

In re Gorman (CA FC) 18 USPQ2d 1885 In re Gorman



Decided May 13, 1991
No. 90-1362

Headnotes

PATENTS

1. Patentability/Validity - Obviousness - Combining references (§ 115.0905)

Patent and Trademark Office's reliance on teachings of large number of references in rejecting patent application for obviousness does not, without more, weigh against holding of obviousness on appeal, since criterion is not number of references, but whether references are in fields which are same as or analogous to field of invention, and whether their teachings would, taken as whole, have made invention obvious to person skilled in that field.

2. Patentability/Validity - Construction of claims (§ 115.03)

Patentability/Validity - Obviousness - In general (§ 115.0901)

Claim which describes features of invention in great detail is nevertheless obvious in view of prior art, since claim that is narrowly and specifically drawn must still meet requirements of 35 USC 103, and details listed in claim are shown in references and thus do not contribute to unobviousness.

3. Patentability/Validity - Obviousness - Relevant prior art - Particular inventions (§ 115.0903.03)

Patentability/Validity - Obviousness - Combining references (§ 115.0905)

Application claim for candy sucker on stick, molded in elastomeric mold in shape of human thumb, is obvious in view of prior art, since all elements of claim, including molded lollipop having chewing gum base plug, with elastomeric mold serving as product wrapper, and candy in shape of human thumb, are shown in prior art references in various subcombinations, used in same manner and for same purpose as in claimed invention.

Case History and Disposition:

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent application of Jeffrey B. Gorman and Marilyn Katz, serial no. 06/882,480 (composite food product). From decision of Board of Patent Appeals and Interferences upholding examiner's rejection of all claims in application, applicants appeal. Affirmed.

Attorneys:

Thomas W. Tolpin, Highland Park, Ill., for appellant.

Teddy S. Gron, associate solicitor (Fred E. McKelvey, solicitor, with him on brief), for appellee.

Judge:

Before Rich, Newman, and Rader, circuit judges.

Opinion Text

Opinion By:

Newman, J.

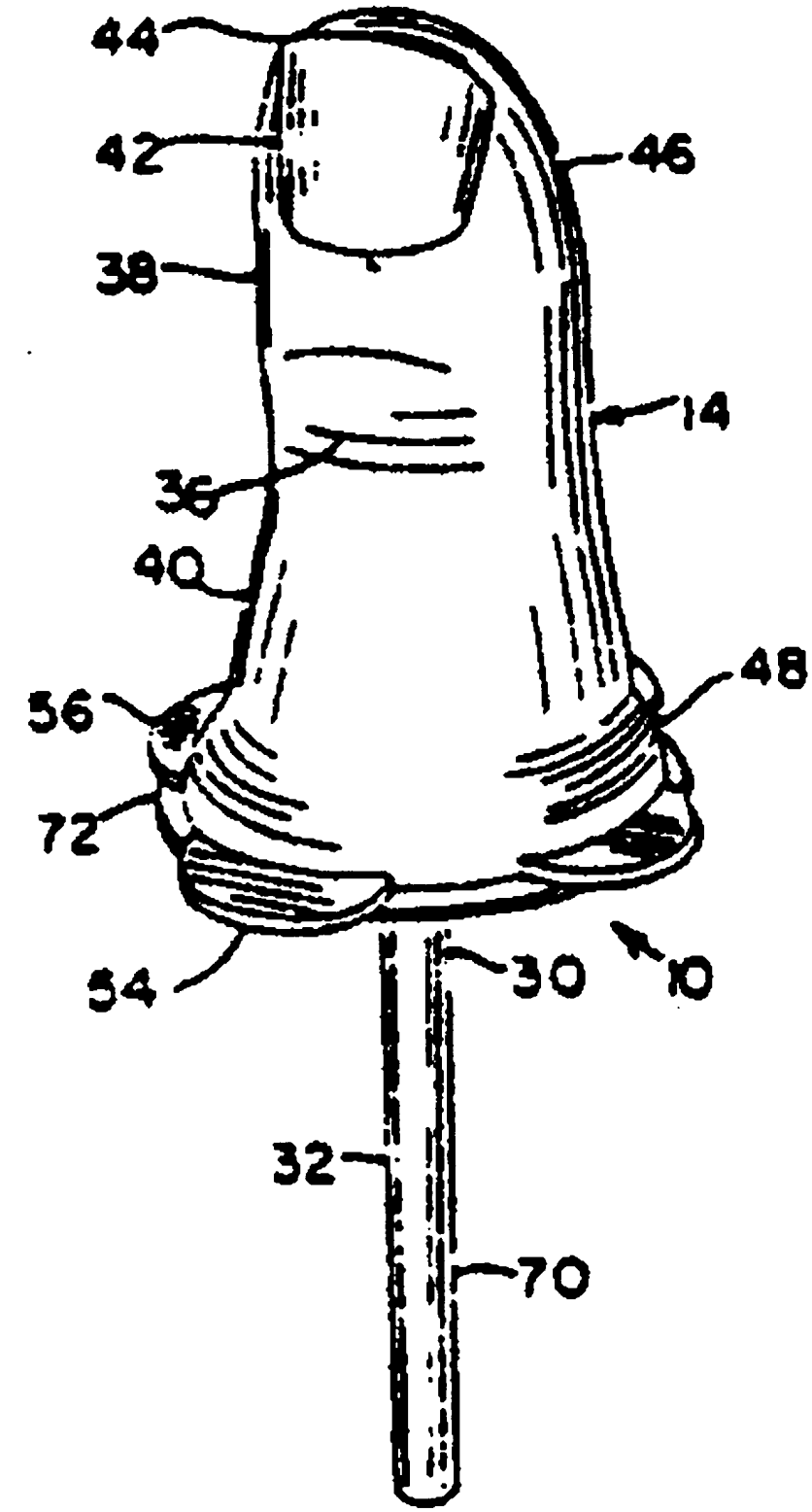
Jeffrey B. Gorman and Marilyn Katz (hereinafter "Gorman") appeal the decision of the United States Patent and Trademark Office, Board of Patent Appeals and Interferences (the "Board") denying patentability to all the claims of Gorman's patent application Serial No. 06/882,480, entitled "Composite Food Product." We affirm.

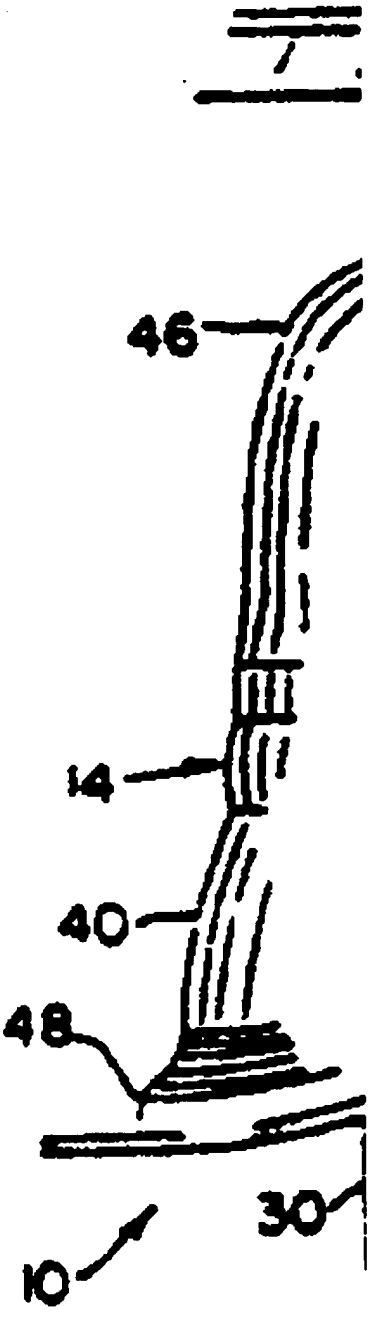
The Invention

The claimed invention is a composite candy sucker on a stick, molded in an elastomeric mold in the shape of a human thumb. During the manufacturing process liquid candy is poured into the mold, and an edible plug of bubble or chewing gum or chocolate or food-grade wax is poured into the mold after the candy has hardened, serving as a seal for the end portion of the candy. A paper or plastic disc abuts and covers the plug. The mold serves as a cover that can be removed from the candy by means of protruding flanges. The cover is described as a "toy and novelty item".

Figure 1 shows the invention in the form in which it is marketed. Figure 2 shows the cover partially removed to reveal the candy portion (12) and the chewable or edible plug (58):

FIG. 1





The claims describe the product in detail, as is apparent from claim 16, the claim pressed by Gorman in this appeal:
16. A composite food product, comprising:
a candy core, said candy core being in a generally liquified form when formulated,

heated, blended and poured into a mold and in a substantially thumb-shaped hardened form when cooled and removed from said mold;
said thumb-shaped hardened form comprising said candy core positioned along a vertical axis and comprising a rigid joint-shaped portion, a rigid upper portion extending upwardly from said rigid joint-shaped portion along said vertical axis, and a rigid lower portion extending downwardly from said rigid joint-shaped portion along said vertical axis, said upper portion having a rigid finger nail-shaped portion with an upper rigid tip providing a rigid top end of said thumb-shaped hardened form and a rigid convex back extending rearwardly and downwardly from said rigid tip, and said rigid lower portion having a rigid bottom end and defining a recessed opening comprising a handle-receiving socket about said vertical axis;
a removable resilient shell comprising a substantially thumb-shaped, elastomeric material selected from the group consisting of rubber and flexible plastic, said shell providing
a mold for receiving and molding said liquified candy form,
a removable outer protective cover positioned about and covering said hardened form comprising said candy core, and
a toy and novelty item for placement upon the thumb of the user when removed from said hardened form comprising said candy core;
said thumb-shaped elastomeric material comprising said removable resilient shell comprising a flexible joint-shaped portion, a flexible upper portion extending upwardly from said flexible joint-shaped portion along said vertical axis, and a flexible lower portion extending downwardly from said flexible joint-shaped portion along said vertical axis, said upper portion having a flexible finger nail-shaped portion with an upper flexible tip providing a flexible top end of said shell and a flexible convex back extending rearwardly and downwardly from said flexible tip, and said flexible lower portion having an enlarged open ended diverging base, said base having a larger circumference and transverse cross-sectional area than other portions of said shell and providing the bottom of said shell, said open ended base defining a plug-receiving chamber and an access opening for entrance of said liquified form and discharge of said hardened candy form, and a set of substantially symmetrical arcuate lobes extending radially outwardly from said base, said lobes being circumferentially spaced from each other and providing manually grippable flange portions to facilitate manual removal of said shell from said core;
a plug positioned in said plug-receiving chamber adjacent said bottom of said shell, said plug abutting against the bottom of said core and providing a cap for substantially plugging and sealing the open end of said mold and cover to help enclose said candy core, and said plug comprising a food grade material selected from the group consisting of bubble gum, chewing gum, chocolate, and food grade wax;
a handle having a connecting portion connected to said plug and said candy core and positioned in said plug-receiving opening and having a manually grippable handle portion extending downward from said connecting portion along said vertical axis; and
a substantially planar annular disk for abuttingly engaging and removably seating against said base and said lobes adjacent said plug, said disk defining a central axial hole for slidably receiving said handle portion and having an outer edge with a maximum span larger than said access opening but less than the maximum diameter of said symmetrical set of lobes to substantially minimize the interference with manually gripping of said manual grippable flange portions of said lobes, said disk being of a material selected from the group consisting of paper, paperboard, and plastic, and providing a removable closure member and seal for substantially closing said access

opening and sealing said plug and said candy core within said shell.
The claims were rejected in view of thirteen references. The primary references, patents to Siciliano, Copeman, and Pooler, show ice cream or candy molded in a plastic, rubber or elastomeric mold. In Siciliano and Copeman the mold also serves as the product wrapper. In Siciliano the ice cream is poured into the mold, a stick is inserted, the ice cream is hardened, and a cardboard cover seals the area between the stick and the elastomeric wrapper. Copeman and Kuhlke show candy lollipops molded in elastomeric molds. Copeman states that the mold may take "varying shapes, such as in the form of fruit, or animals" and Kuhlke discusses the desirability of sealing candy from the outside air. In Siciliano, Copeman and Kuhlke, the mold is peeled from the confection prior to use.
The two Nolte patents teach that gripping flanges may be placed on an ice cream wrap

per to facilitate removal. Ahern and Knaust each show a disc-shaped seal or cover for a frozen confection. Ahern shows the cover in conjunction with ice cream on a stick.
Harris shows a hollow thumb-shaped lollipop into which the thumb is inserted, and Craddock shows a thumb-shaped confection supported on a disc-shaped handle; in both cases without the other elements shown by Gorman. Fulkerson shows a candy coating surrounding a block of ice cream, and a candy plug for retaining liquid syrup inside a cavity in the ice cream. Webster shows chewing gum entirely enclosing a liquid syrup product. Spiegel shows a chocolate layer having an alcohol diffusion barrier to plug the end of a plastic container of liqueur. Fulkerson, Webster and Spiegel all suggest the greater appeal to consumers of providing two different components in the same confection.
The Board found that all of the features of Gorman's product were known to the art, and that various combinations of these elements existed in known similar structures. The Board concluded that the applicant's claimed combination was suggested by and would have been obvious in light of the references.

Discussion

A

Each element of the Gorman claims is in the prior art, separately or in sub-combination. Gorman argues that when it is necessary to combine the teachings of a large number of references in order to support a rejection for obviousness under 35 U.S.C. §103, this of itself weighs against a holding of obviousness.
[1] The criterion, however, is not the number of references, but what they would have meant to a person of ordinary skill in the field of the invention. In *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1383, 231 USPQ 81, 93 (Fed. Cir. 1986), *cert. denied,* 480 U.S. 947 (1987), the court held that a combination of about twenty references that "skirt[ed] all around" the claimed invention did not show obviousness. In other instances, on other facts, we have upheld reliance on a large number of references to show obviousness. Compare *In re Miller,* 159 F.2d 756, 758-58, 72 USPQ 512, 514-15 (CCPA 1947) (rejecting argument that the need for eight references for rejection supported patentability) with *Kansas Jack, Inc. v. Kuhn,* 719 F.2d 1144, 1149, 219 USPQ 857, 860 (Fed. Cir. 1983) (where teachings relied upon to show obviousness were repeated in a number of references, the conclusion of obviousness was strengthened). *See also, e.g., In re Troiel,* 274 F.2d 944, 947, 124 USPQ 502, 504 (CCPA 1960) (rejecting appellant's argument that combining a large number of references to show obviousness was "farfetched and illogical").
Determination of whether a new combination of known elements would have been obvious to one of ordinary skill depends on various facts, including whether the elements exist in "analogous art", that is, art that is reasonably pertinent to the problem with which the inventor is concerned. *In re Deminski,* 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed. Cir. 1986). When the references are all in the same or analogous fields, knowledge thereof by the hypothetical person of ordinary skill is presumed, *In re Sernaker,* 702 F.2d 989, 994, 217 USPQ 1, 5 (Fed. Cir.

1983), and the test is whether the teachings of the prior art, taken as a whole, would have made obvious the claimed invention. *See In re Young,* 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991).
When it is necessary to select elements of various teachings in order to form the claimed invention, we ascertain whether there is any suggestion or motivation in the prior art to make the selection made by the applicant. *Interconnect Planning Corp. v. Feil,* 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985). "'Obviousness can not be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination.'" *In re Bond,* 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990) (quoting *Carella v. Starlight Archery and Pro Line Co.,* 804 F.2d 135, 140, 231 USPQ 644, 647 (Fed. Cir. 1986)).
The extent to which such suggestion must be explicit in, or may be fairly inferred from, the references, is decided on the facts of each case, in light of the prior art and its relationship to the applicant's invention. As in all determinations under 35 U.S.C. §103, the decisionmaker must bring judgment to bear. It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps. *Interconnect Planning,* 774 F.2d at 1143, 227 USPQ at 551. The references themselves must provide some teaching whereby the applicant's combination would have been obvious.

B

Gorman argues that the references showing ice cream in a mold or wrapper on a stick and the references showing candy in a mold or wrapper on a stick are not analogous, for they require different conditions of production. However, the Copeman reference shows the close relationship of these arts, stating that his elastomeric mold may be used for "frozen confections and other solid confections". We conclude that the ice cream on a stick and candy on a stick arts are analogous, and that the Siciliano, Copeman, Pooler, and Kuhlke references show or suggest Gorman's candy on a stick and covered with an elastomeric mold, for which the thumb-shape is shown by Harris or Craddock.
The suggestion of providing a layer of chewing gum, chocolate or the like, surrounding the candy core in the area not covered by the mold, to seal the candy and provide a second food product, is provided by Fulkerson, Webster, or Spiegel. The paper disc adjacent the base of the candy structure is shown in Ahern and Knaust. Harris and Craddock both show thumb-shaped candy. Gorman argues that the prior art does not suggest using the thumb-shaped cover as a toy after the candy is removed. However, Copeman states that his rubber mold may be used as a "toy balloon" after the candy is removed. Gorman argues that Craddock teaches away from the claimed invention because of Craddock's admonition that lollipops on sticks are dangerous to children. However, candy on a stick is too well known for this caution to contribute to unobviousness.
[2] Claim 16 recites details such as a "joint-shaped portion", a "finger nail portion", an "upper portion", a "lower portion" and a "convex back", as descriptive of the thumb shape. Such details are shown in the references and do not contribute to unobviousness. A claim that is narrowly and specifically drawn must nevertheless meet the requirements of §103:
The mere fact that a claim recites in detail all of the features of an invention (i.e., is a "picture claim") is never, in itself, justification for the allowance of such a claim.
Manual of Patent Examining Procedure, §706 (Rev. 6, Oct. 1987) at p. 700-6; *In re Romito,* 289 F.2d 518, 129 USPQ 359 (CCPA 1961) (rejecting a "picture claim").
[3] Applying the principles of *Graham v. John Deere & Co.,* 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), we discern all of the elements of claim 16, used in substantially the same manner, in devices in the same field of

endeavor. The various elements Gorman combined: the molded lollipop with a chewing gum plug, with the mold serving as the product wrapper; and candy in the shape of a thumb; are all shown in the cited references in various sub-combinations, used in the same way, for the same purpose as in the claimed invention. The Board did not, as Gorman argues, pick and choose among isolated and inapplicable disclosures in the prior art. Rather, the claim elements appear in the prior art in the same configurations, serving the same functions, to achieve the results suggested in prior art. *In re Sernaker,* 702 F.2d at 994, 217 USPQ at 5. The large number of cited references does not negate the obviousness of the combination, for the prior art uses the various elements for the same purposes as they are used by appellants, making the claimed invention as a whole obvious in terms of 35 U.S.C. §103.
The Board's decision is *AFFIRMED.*

- End of Case -

Intellectual Property Library ISSN 1526-8535

FULL TEXT OF CASES (USPQ2D)
All Other Cases

In re Dow Chemical Co. (CA FC) 5 USPQ2d 1529 In re Dow Chemical Co.

U.S. Court of Appeals Federal Circuit
5 USPQ2d 1529

Decided January 25, 1988
No. 87-1406

Headnotes

PATENTS

1. Patentability/validity -- Obviousness -- Evidence of (§ 115.0903)

Patentability/validity -- Obviousness -- Secondary considerations (§ 115.0907)

Board of Patent Appeals and Interferences erred in rejecting as obvious claims for invention of impact resistant rubber-based resin suitable for molding and extrusion containing preferred ingredients styrene, maleic anhydride, and synthetic diene rubbers, since none of prior art references cited by patent holder and PTO suggest that any process could be used successfully in such three-component system to produce resin having desired properties, and since board did not give fair evidentiary weight to expert's skepticism concerning invention, or to five to six years necessary to produce invention, in determining obviousness issue.

Particular Patents -- Chemical -- Rubber Based Resins

3,919,354, Moore, Lehrer, Lyons and McKeever, impact resistant polymers of a resinous copolymer of an alkenyl aromatic monomer and unsaturated dicarboxylic anhydride, holding of obviousness reversed.

Case History and Disposition:

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Appeal from the U.S. Patent and Trademark Office Board of Patent Appeals and Interferences.

Reexamination of Patent No. 3,919,354, held by The Dow Chemical Company. From decisions rejecting all claims of patent as obvious, patent holder appeals. Reversed.

Attorneys:

Douglas N. Deline, Midland, Mich. (Berndt W. Sandt with him on the brief) for appellant.

John H. Raubitschek, associate solicitor, Arlington, Va. (Joseph F. Nakamura, solicitor, and Fred E. McKelvey, deputy solicitor, with him on the brief) for appellee.

Judge:

Before Smith, Nies, and Newman, Circuit Judges.

Opinion Text

Opinion By:

Newman, Circuit Judge.

Dow Chemical Company appeals the decisions of the United States Patent and Trademark Office Board of Patent Appeals and Interferences, No. 86-3426 (Feb. 25, 1987) and No. 662-81 (Mar. 25, 1986), together rejecting all the claims on reexamination of United States Patent No. 3,919,354 entitled "Impact Resistant Polymers of a Resinous Copolymer of an Alkenyl Aromatic Monomer and an Unsaturated Dicarboxylic Anhydride.". We reverse.

The Rejection

The invention is an impact resistant rubber-based resin having improved resistance to heat distortion. Claim 28, the broadest claim on appeal, is illustrative:

28. A polymer suitable for molding and extrusion, of substantially improved resistance to mechanical shock and impact, the polymer consisting essentially of the polymerization product of

a. a monovinyl alkenyl aromatic monomer containing up to 12 carbon atoms and having the alkenyl group attached directly to the benzene nucleus, the al

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kenyl aromatic compound being present in a proportion of from about 65 to 95 parts by weight and from 35 to 5 parts by weight of an unsaturated dicarboxylic acid anhyride readily copolymerizable therewith, and

b. from 5 to 35 parts by weight of a diene rubber per 100 parts of (a) plus (b), the rubber consisting essentially of 65 to 100 weight percent butadiene, or isoprene and up to 35 weight percent of an alkenyl aromatic hydrocarbon as the sole other monomer in the rubber, the rubber having a glass temperature not higher than 0° C., the rubber being in the form of a plurality of particles having diameters within the range of 0.02 to 30 microns dispersed throughout a matrix of polymer of alkenyl aromatic monomer and the anhydride, at least a major portion of the rubber particles containing distinct occlusions of the polymer of (a), with the further limitation that
the polymer of (a) is a nonequimolar random copolymer.

The preferred ingredients are styrene, maleic anhydride, and synthetic diene rubbers, and our discussion will be in these terms, as was the Board's.

The Board's decision that the claimed invention would have been obvious in terms of 35 U.S.C. §103 was based on the combination of two references: a 1966 article by Molau and Keskkula entitled "Heterogeneous Polymer Systems IV. Mechanism of Rubber Particle Formation in Rubber-Modified Vinyl Polymers", and Baer U.S. Patent No. 2,971,939. Also discussed were Farmer U.S. Patent No. 2,275,951 and a publication by Bacon and Farmer entitled "The Interaction of Maleic Anhydride with Rubber", although the Board stated that the rejection was sustainable without relying on either of these references.

The Prior Art

The Molau/Keskkula article shows the preparation of a resin having high impact strength by dissolving synthetic diene rubber in styrene and polymerizing the styrene. This reference teaches that phase inversion is necessary to the formation of these moldable, extrudable resins. Baer prepares nonequimolar random maleic anhydride-styrene copolymers by a technique whose salient feature is adding the maleic anhydride slowly to polymerizing styrene under controlled conditions.

Farmer shows the reaction among natural rubber, styrene, and maleic anhydride, and also states that maleic anhydride reacts directly with the rubber. The Bacon and Farmer article also shows the reaction of maleic anhydride with natural rubber. These products, according to Dow's evidence and as found by the Board, do not have a dispersed rubber phase containing occlusions, and are not moldable.

Dow argues that the Board has engaged in hindsight reconstruction of the claimed invention. To support its position Dow refers to several scientific publications and other references, in addition to those cited by the PTO, and evidence submitted by declaration and deposition.

The first group of references to which Dow refers shows the reaction of maleic anhydride with natural or synthetic rubbers. These references show both intermolecular and intramolecular reactions between maleic anhydride and the various rubbers, but not a grafted rubber, which is said by Dow to characterize its product. Additional references are cited by Dow to show that maleic anhydride is much more reactive with diene-type synthetic rubbers than with natural rubber, and that the reaction with the synthetic rubbers is difficult to control and the product is unpredictable.

Another reference cited by Dow, the *Encyclopedia of Science and Technology* , states the general rule, derived from experience with acrylonitrile, that copolymers with synthetic diene rubbers have elevated glass transition temperatures; Dow advises that this is a highly undesirable property for a high-impact strength resin.

Another series of references cited by Dow shows several known techniques of reacting styrene and maleic anhydride to prepare nonequimolar copolymers, all different from the technique shown in the Baer patent.

Analysis

The Board held that the claimed product results from the application of the Baer technique to a styrene-maleic anhydride polymer system which includes synthetic diene rubber, and that it would have been obvious to do that which these inventors did if one wanted to increase the heat stability of a known high impact styrene rubber resin.

The crux of Dow's argument is that no reference shows or suggests that these references should or could be combined successfully. Indeed, the Board agreed, stating that "[i]t is not apparent from the evidence whether

rubber and maleic anhydride would have been expected to react *in the process suggested by the combined disclosure of Molau and Baer . . . .*" (Emphasis in original).

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Dow also points out, referring to the Keskkula evidence, that it was believed that these products could not be made by the mass polymerization techniques of the prior art. Dow asserts that no reference, including Baer, suggested that the Baer technique could produce the requisite phase inversion in a system containing diene rubber, and could produce a diene-rubber containing resin that could be molded and had the other desired high-impact and thermal properties.

Dow refers to the Farmer patent, cited by the examiner and the Board, which shows that the reaction of styrene, maleic anhydride, and natural rubber forms a product that is unsuitable as a molding resin. Dow argues that Farmer leads away from the Dow invention, in that Farmer obtains precisely the "runaway" reaction, and undesirable product, that Keskkula believed was characteristic of reactions involving styrene, maleic anhydride, and rubbers.

Dow points to Dr. Keskkula's Report to Dow management, written in 1966 at about the time the present invention was made, pointing out the many problems in attempting to produce the three-component product that these inventors later succeeded in producing.

In response, the Commissioner argues that even though an expert polymer scientist, Dr. Keskkula, "personally may have been surprised by the invention at the time it was made, it does not necessarily follow that the invention would have been unobvious to one of ordinary skill in the art." The Commissioner suggests that one less encumbered by knowledge of the need for phase inversion, as described in the Molau/Keskkula article, might have achieved the Dow product by combining the references in the way suggested by the Commissioner. Reflecting on this theory of invention, we observe that such a person did not do so, despite the decades of experimentation with these components, and the recognition of need, as evidenced by the many references cited by both sides. *See In re Geiger* , 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987); *ACS Hospital Systems, Inc. v. Montefiore Hospital* , 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984).

The Board held that Dow's statement in the patent specification that it was known that styrene/maleic anhydride copolymers had improved heat resistance as compared with styrene rubbers, made it prima facie obvious to combine these three components. Indeed, the record shows that such combinations had previously been made, in various ways, but without producing the product here desired. That there were other attempts, and various combinations and procedures tried in the past, does not render obvious the later successful one. The PTO's reliance on Dow's "admission" of longfelt need as prima facie evidence of obviousness is contrary to logic as well as law. Recognition of need, and difficulties encountered by those skilled in the field, are classical indicia of unobviousness. *Graham v. John Deere Co* ., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966); *Custom Accessories v. Jeffrey-Allan Industries* , 807 F.2d 955, 960, 1 USPQ2d 1196, 1199 (Fed. Cir. 1986). Further, a patent applicant's statement of the purpose of the work is not prior art.

The Board thus concluded that although one would not know in advance whether the Baer technique would work at all in the presence of diene rubber, or produce a moldable high-impact product, if it did succeed it would have been obvious. The Board criticized Keskkula's evidence for not stating whether, after these inventors proposed the procedure here at issue, Keskkula would have expected the maleic anhydride to react preferentially with the diene rubber or with the styrene and to what effect on the impact properties of the product. The PTO argues that unless the prior art is shown to have led one of ordinary skill to expect the Baer technique to fail, the applicant's burden is not met. This is not the criterion. That these inventors eventually succeeded when they and others had failed does not mean that they or their colleagues must have expected each new idea to fail. Most technological advance is the fruit of methodical, persistent investigation, as is recognized in 35 U.S.C. §103 ("Patentability shall not be negatived by the manner in which the invention was made").

The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art. *See Burlington Industries v. Quigg* , 822 F.2d 1581, 1583, 3 USPQ2d 1436, 1438 (Fed. Cir. 1987); *In re Hedges* , 783 F.2d 1038, 1041, 228 USPQ 685, 687 (Fed. Cir. 1987); *Orthopedic Equipment Co. v. United States* , 702 F.2d 1005, 1013, 217 USPQ 193, 200 (Fed. Cir. 1983); *In re Rinehart* , 531 F.2d 1048, 1053-54, 189 USPQ 143, 148 (CCPA 1976). Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure.
In determining whether such a suggestion can fairly be gleaned from the prior art, the full field of the invention must be considered; for the person of ordinary skill is charged

with knowledge of the entire body of technological literature, including that which might lead away from the claimed invention. The Commissioner argues that since the PTO is no longer relying on Farmer or the Bacon and Farmer article, the applicant is creating a "straw man". It is indeed pertinent that these references teach against the present invention. Evidence that supports, rather than negates, patentability must be fairly considered.
[1] The PTO presents, in essence, an "obvious to experiment" standard for obviousness. However, selective hindsight is no more applicable to the design of experiments than it is to the combination of prior art teachings. There must be a reason or suggestion in the art for selecting the procedure used, other than the knowledge learned from the applicant's disclosure. *Interconnect Planning Corporation v. Feil* , 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985). Of the many scientific publications cited by both Dow and the PTO, none suggests that any process could be used successfully in this three-component system, to produce this product having the desired properties. The skepticism of an expert, expressed before these inventors proved him wrong, is entitled to fair evidentiary weight, *see In re Piasecki* , 745 F.2d 1468, 1475, 223 USPQ 785, 790 (Fed. Cir. 1984); *In re Zeidler* , 682 F.2d 961, 966, 215 USPQ 490, 494 (CCPA 1982), as are the five to six years of research that preceded the claimed invention. The evidence as a whole does not support the PTO's conclusion that the claimed invention would have been obvious in terms of 35 U.S.C. §103.

REVERSED

- End of Case -

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FULL TEXT OF CASES (USPQ2D)
All Other Cases

In re Robertson (CA FC) 49 USPQ2d 1949 In re Robertson

U.S. Court of Appeals Federal Circuit
49 USPQ2d 1949

Decided February 25, 1999
No. 98-1270

Headnotes

PATENTS

1. Patentability/Validity -- Anticipation -- In general (§ 115.0701)

Element of claim is not "inherent" in disclosure of prior art reference unless extrinsic evidence clearly shows that missing descriptive matter is necessarily present in thing described in reference, and that it would be so recognized by persons of ordinary skill; inherency may not be established by mere probabilities or possibilities, and mere fact that certain thing may result from given set of circumstances is not sufficient.

2. Patentability/Validity -- Anticipation -- Identity of elements (§ 115.0704)

Board of Patent Appeals and Interferences improperly rejected application claim for fastening and disposal system for diapers on ground that prior reference inherently contained all elements of claim, since board failed to recognize that third mechanical fastening means of application claim, used to secure diaper for disposal, was separate from and independent of two other means used to attach diaper to wearer, and since board's theory that two fastening devices in reference were capable of being intermingled to perform same function as third and first fastening elements in application claim rests upon mere probability or possibility that is insufficient to establish inherency.

Case History and Disposition:

Page 1949

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent application of Anthony J. Robertson and Charles L. Scripps, serial no. 08/171,484 (fastening and disposal system for diapers). Applicants appeal from rejection of application claim 76 on grounds of anticipation and obviousness. Reversed; Rader, J., concurring in separate opinion.

Attorneys:

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Linda Moncys Isacson, associate solicitor, Albin F. Drost, acting solicitor, and John M. Whealan, associate solicitor, U.S. Patent and Trademark Office, Arlington, Va., for appellee.

Judge:

Before Newman, circuit judge, Friedman, senior circuit judge, and Rader, circuit judge.

Opinion Text

Opinion By:

Friedman, S.J.

This appeal challenges the decision of the Board of Patent Appeals and Interferences

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(Board) that claim 76 in the appellants' patent application was anticipated by and obvious over United States Patent No. 4,895,569 (the Wilson patent). We reverse.

I

Both claim 76 and Wilson involve fastening and disposal systems for diapers. In both, the body of the diaper features a small front and a larger rear section. The outer edges of those sections are attached at the wearer's waist in the hip area. Once the diaper is soiled and then removed, the smaller front section is rolled up into the larger rear section and secured in this rolled-up configuration by fasteners.

The appellants' application is for "an improved mechanical fastening system for . . . disposable absorbent articles [*i.e.* , diapers] that provides convenient disposal of the absorbent article." [J.A. 12] Claim 76 covers:
[A] mechanical fastening system for forming side closures . . . comprising a closure member . . . comprising a first mechanical fastening means for forming a closure, said first mechanical fastening means comprising a first fastening element; a landing member . . . comprising a second mechanical fastening means for forming a closure with said first mechanical fastening means, said second mechanical fastening means comprising a second fastening element mechanically engageable with said first element; and
disposal means for allowing the absorbent article to be secured in a disposal configuration after use, said disposal means comprising a third mechanical fastening means for securing the absorbent article in the disposal configuration, said third mechanical fastening means comprising a third fastening element mechanically engageable with said first fastening element . . .

Claim 76 thus provides for two mechanical fastening means to attach the diaper to the wearer and a third such means for securing the diaper for disposal.
The Wilson patent discloses two snap elements on fastening strips attached to the outer edges of the front and rear hip sections of the garment. The fastening strips may also include "secondary load-bearing closure means" -- additional fasteners to secure the garment; they may be identical to the snaps.
Wilson also states:
[D]isposal of the soiled garment upon removal from the body is easily accomplished by folding the front panel . . . inwardly and then fastening the rear pair of mating fastener members . . . to one another, thus neatly bundling the garment into a closed compact package for disposal.
[JA 085 at col. 6, 11, 20-25]
In other words, Wilson does not provide a separate fastening means to be used in disposing of the diaper. Instead, it suggests that disposal of the used diaper may be "easily accomplished" by rolling it up and employing the same fasteners used to attach the diaper to the wearer to form "a closed compact package for disposal."
In holding that the invention claim 76 covers was anticipated by Wilson, the Board did not hold that Wilson set forth a third fastening means. Instead, it found that Wilson anticipated claim 76 "under principles of inherency." [J.A. 5] Applying the language of claim 76 to the operation of Wilson, it concluded that "an artisan would readily understand the disposable absorbent garment of Wilson . . . as being inherently capable of [making the secondary load-bearing closure means] (third fastening element) mechanically engageable with [the other snap fasteners on the fastening strip] (first fastening element)" [J.A. 5] -- *i.e.* , using the secondary closure not with its mate, but with one of the primary snap fasteners. The Board summarily affirmed the examiner's alternative ruling that claim 76 would have been obvious in light of Wilson because "claim 76 lacks novelty." [J.A. 7]

II

Anticipation under 35 U.S.C. Section 102(e) requires that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co.* , 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).
A. The Wilson patent does not expressly include a third fastening means for disposal of the diaper, as claim 76 requires. That means is separate from and in addition to the other mechanical fastening means and performs a different function than they do. Indeed, Wilson merely suggests that the diaper may be closed for disposal by using the same fastening means that are used for initially attaching the diaper to the body.
[1] B. If the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if that element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that

it would be so recognized by persons of ordinary skill." *Continental Can Co. v. Monsanto Co.* , 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991). "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Id.* at 1269, 20 U.S.P.Q.2d at 1749 (quoting *In re Oelrich* , 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981).

In finding anticipation by inherency, the Board ignored the foregoing critical principles. The Board made no attempt to show that the fastening mechanisms of Wilson that were used to attach the diaper to the wearer also "necessarily" disclosed the third separate fastening mechanism of claim 76 used to close the diaper for disposal, or that an artisan of ordinary skill would so recognize. It cited no extrinsic evidence so indicating.

[2] Instead, the Board ruled that one of the fastening means for attaching the diaper to the wearer also could operate as a third fastening means to close the diaper for disposal and that Wilson therefore inherently contained all the elements of claim 76. [J.A. 5] In doing so, the Board failed to recognize that the third mechanical fastening means in claim 76, used to secure the diaper for disposal, was separate from and independent of the two other mechanical means used to attach the diaper to the person. The Board's theory that these two fastening devices in Wilson were capable of being intermingled to perform the same function as the third and first fastening elements in claim 76 is insufficient to show that the latter device was inherent in Wilson. Indeed, the Board's analysis rests upon the very kind of probability or possibility -- the odd use of fasteners with other than their mates -- that this court has pointed out is insufficient to establish inherency.

III

The Board's entire discussion of obviousness was as follows: *The rejection of claim 76 under 35 USC Section 103*

We sustain the rejection of claim 76 under 35 USC Section 103. Above, we found that claim 76 lacks novelty. Lack of novelty is the ultimate of obviousness. See *In re Fracalossi* , 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982). Thus, claim 76 is appropriately rejected under 35 USC Section 103 as being unpatentable.

The "lack of novelty" upon which the Board based its conclusion of obviousness, however, was its finding of anticipation. Our rejection of that finding eliminates the sole basis of the Board's obviousness determination, which therefore cannot stand. *See* *In re Adams* , 364 F.2d 473, 480, 150 U.S.P.Q. 646, 651 (C.C.P.A. 1966).

In his brief the Commissioner argues:

Moreover, even if this court interprets claim 76 to require two separate fasteners to perform the closure and disposal functions, it would have been well within the knowledge of one of ordinary skill in the art to take Wilson's one fastener and make it into two separate fasteners. *See* [*In re*] *Graves* , 69 F.3d [1147,] 1152, 36 USPQ2d [1697,] 1701 [(Fed. Cir. 1995)] (When evaluating a reference, it is appropriate to consider the knowledge of a skilled artisan in combination with the teaching of the reference.). Accordingly, claim 76 would have been obvious to one of ordinary skill in the art, and the rejection should be affirmed by this Court.

That, of course, was not the ground on which the Board based its obviousness ruling. We decline to consider counsel's newly- minted theory as an alternative ground for upholding the agency's decision. *See* *In re Soni* , 54 F.3d 746, 751, 34 U.S.P.Q.2d 1684, 1688 (Fed. Cir. 1995) (citing *In re DeBlauwe* , 736 F.2d 699, 705 n.7, 222 U.S.P.Q. 191, 196 n.7 (Fed. Cir. 1984). The Board's obviousness ruling cannot be sustained on the ground given by the Board.

CONCLUSION

The decision of the Board of Patent Appeals and Interferences affirming the examiner's rejection of claim 76 as

anticipated by and obvious over the Wilson patent is

REVERSED .

Rader, J., concurring.

Robertson asserts that the prior art Wilson patent does not teach three elements of claim 76: a "third mechanical fastening means," a disposal means on the "outside surface" of the body portion, and end regions that are "in an overlapping configuration when worn." In reversing the Board, this court relies solely on the purported failure of Wilson to teach the third fastening means. Because I believe Wilson teaches such a means, but does not teach the other two limitations at issue, I concur.

In its analysis, this court assumes without discussion that the claimed "third mechanical fastening means" covers a *separate* third mechanical

fastening means. This issue is key, for if the claim does not require a separate third fastening means, but instead allows the first fastening means to also serve as the third, then the prior art Wilson patent clearly teaches that element of the claim. For two reasons, this claim does not, to my eyes, require a separate third fastening means. First, the claim does not specifically recite a *separate* third fastening means. Second, because the claim is in means-plus-function form, this court consults the specification to identify structure. The specification explicitly teaches that the first and third fastening elements can be the same so long as they are complementary, as they are in Wilson. Accordingly, I agree with the Board that Wilson teaches the claimed "third fastening element."

Wilson does not, however, teach either of the other two claim limitations at issue. As to the disposal means on the "outside surface" of the body portion, Wilson's figs. 12 and 13a-d show the disposal means on the inside of the body portion. As to the end regions that are "in an overlapping configuration when worn," Wilson explicitly teaches that the end regions should abut, not overlap, when worn. To overcome these teachings, the Board relied on the following statement in Wilson: "Further, the fastener members need not be previously mounted on a separate strip as shown then bonded . . . to the stretchable outer cover . . . . Multi-component snaps are available which may be applied directly to a stretchable outer cover material . . . ." Col. 7, l. 65 to col. 8, l. 3. The Board opined that applying snaps directly to the outer cover would result in both a disposal means on the "outside surface" and end regions "in an overlapping configuration when worn." Simply put, the Board has put more weight on this teaching than it can bear. It is far from clear what effect applying the snaps directly to the outer cover will have on the Wilson diaper configuration, let alone that it will result in a configuration satisfying the claim elements at issue. Accordingly, because I believe that the Board clearly erred in this interpretation of Wilson, I would reverse on this ground.

- End of Case -

